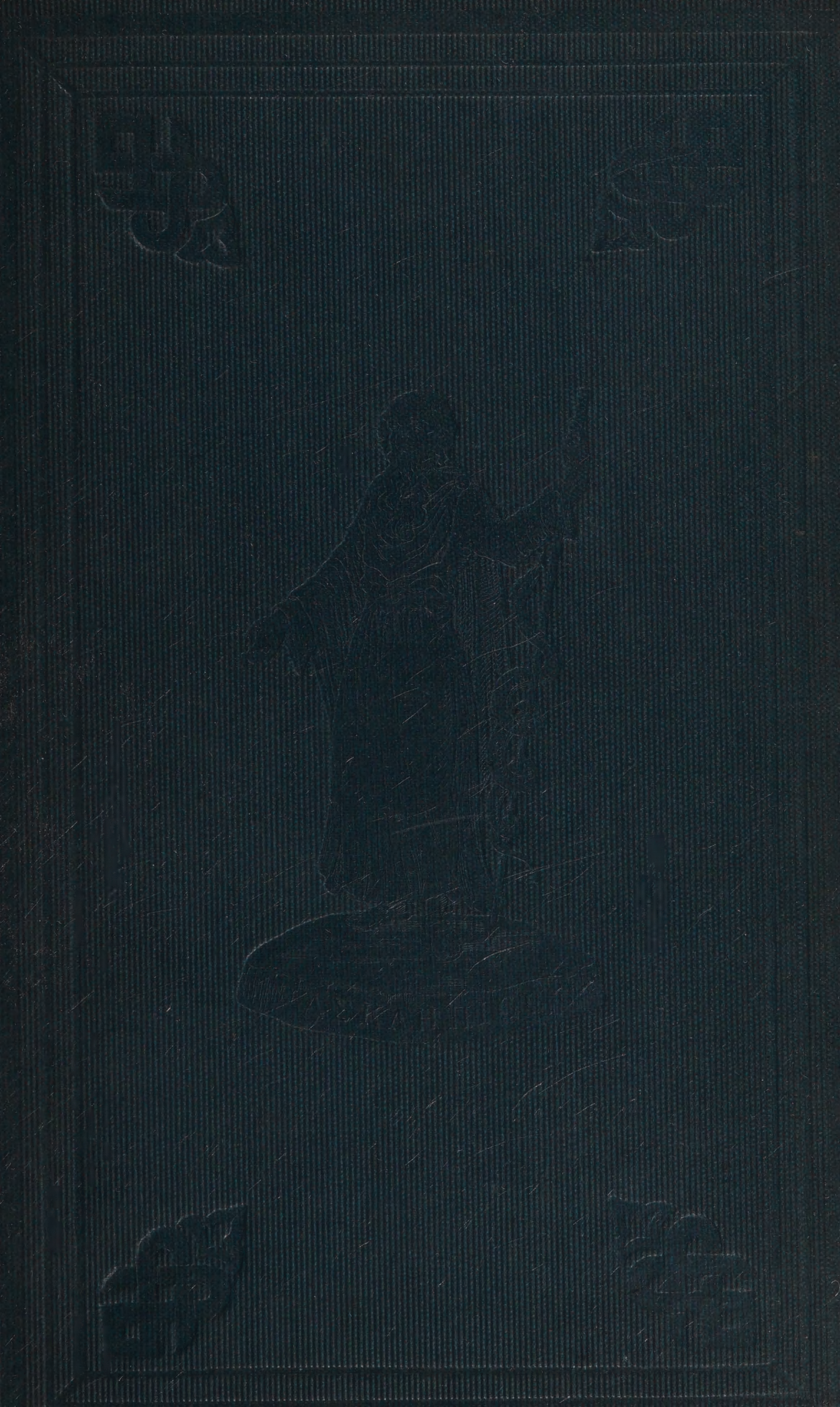

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# HALF-YEARLY ABSTRACT

OF THE

# MEDICAL SCIENCES.

JANUARY—JUNE.

1869.

THE

# HALF-YEARLY ABSTRACT

OF THE

# MEDICAL SCIENCES:

BEING

A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,

AND OF

THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

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# HALF-YEARLY ABSTRACT

OF

# THE MEDICAL SCIENCES,

ETC.

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## PART I.

## PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

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### SECT. I.—GENERAL QUESTIONS IN MEDICINE.

#### ART. 1.—*On the Influence of Weather and Seasons upon Public Health.*

By EDWARD BALLARD, M.D.

(*Medical Times and Gazette*, October 17.)

THIS paper is in continuation of a former paper in which the influence of a rise of mean temperature in producing an increase of general sickness, and of a fall in producing a decrease of general sickness, was established, as well as the limits within which this operation is exerted. The question now discussed is whether the influence of a rise or fall of mean temperature is similarly exercised in the colder and warmer seasons of the year. Drawing a line at 50° of mean weekly temperature, the author tabulates the results of his observations as to increase or decrease of sickness with rises or falls of mean temperature, as in his former communication, keeping separate the 191 weeks of which the mean temperature was below 50°, and the 198 weeks of which the mean temperature was 50° and upwards. It is observable that the two sets of tables thus constructed unite in confirming many of the inferences drawn in the previous paper. But then the fact comes out that, whether we regard the frequency with which increase of sickness occurs in association with rises of mean temperature, and decrease of sickness with falls, or whether we regard the clear gain by way of increase of sickness, as the result of the conditions operating in the weeks of rise, or by way of decrease in the weeks of fall, or the amount of increase or decrease of sickness in each set of weeks, the grand result is that, on the whole, the association of increase of sickness with rises of mean temperature and of decrease of sickness with falls is very much more marked in the *colder* than in the warmer seasons of the year. The author points out that this difference in result is probably in great measure due to the difference which exists in the diurnal range of temperature in the colder and warmer seasons—a subject

which, however, he proposes to consider separately at a future time. The above points are fully wrought out in the paper, which concludes with a comparison of the frequency and force with which various supplementary meteorological conditions influenced the result of the rises and falls of mean temperature in the colder and warmer weeks respectively.

In discussing the influence of variations of daily range of temperature upon the fluctuations of general sickness, the first question which arises is this—whether a mere alteration in the extent of the range (irrespective of whether it is by way of increase or diminution) has any influence. The data in the possession of the author supply him with a record of 393 weeks, the fluctuations of sickness in which are known, as well as the mean daily range of temperature. The weeks are the same as those employed in his former paper, with the addition of four weeks in which neither rise nor fall of mean temperature was noted. The author infers from his tables and the calculations based upon them that slight (under 2 degrees) and moderate (under 5 degrees) alterations of range tend to promote decrease of sickness, and so are favourable to public health; while, on the other hand, considerable alterations of daily range (5 degrees and upwards) tend to increase sickness, and so are detrimental to public health. Inquiring next whether the result of alteration of daily range is the same whether the alteration be by way of increase or of diminution of range, the conclusions arrived at are—1. That an increase of mean daily range, regarded generally, was in the weeks tabulated promotive of the occurrence of a decrease rather than of an increase of sickness; and, on the other hand, that a decrease of mean daily range was, on the whole, promotive of the occurrence of increase of sickness. 2. That, putting aside the weeks of slight alteration of range as those in which the effect of the variation of range was most likely to be disturbed by the predominant operation of other influences, there is reason to believe that a moderate increase of range promoted the occurrence of decrease of sickness more decidedly than did a moderate diminution of range; and 3. That a considerable increase of range was certainly not promotive of an increase of sickness, being apparently more or less antagonistic to it; while, on the other hand, a considerable diminution of range powerfully contributed to the occurrence of increase of sickness. The author then proceeds to inquire into the influence exerted by alterations of mean daily range upon the operation of rises and falls of mean temperature. Taking first their influence upon the operation of rises of mean temperature, which were shown in his former paper to promote increase of sickness, he infers from his tabulations that rises of mean temperature are assisted in their normal operation upon sickness by a simultaneous reduction of the daily range of temperature, and lessened in their normal operation by a simultaneous increase of the daily range of temperature; and that this fact is established by observing—1. That the clear gain by way of increase of sickness in the group of weeks in which rises of mean temperature were associated with reduction of daily range was greater, and in the group of weeks where the rises were associated with increase of daily range was less, than the relative extent of the rises might have been expected to occasion. 2. That the frequency with which increase of sickness occurred in the former group of weeks was greater, and in the latter group of weeks

less, than the relative extent of the rises of mean weekly temperature might have been expected to occasion. 3. That in the weeks of increase of sickness there was plainly in operation some cause rendering the normal operation of the actual mean rises more powerful when associated with lessened range than when associated with increased daily range; and in the weeks of decrease of sickness there was also plainly in operation some cause rendering the influences at work to produce this abnormal result less powerful in the weeks of diminished than in those of increased daily range. 4. That considering separately the weeks of rise in which the daily range was slightly increased or diminished, moderately increased or diminished, and considerably increased or diminished, the only exception to the above facts was found in the weeks in which the daily range was only slightly altered. In these the clear gain by way of increase was greater in the weeks of slightly increased than in those of slightly diminished range—this being due apparently to the more frequent operation of other causes of increase of sickness, as yet unconsidered by the author, in the former than in the latter set of weeks, and to the fact that when such causes did thus operate to augment the normal influence of the rise, they operated very forcibly. Next, as to their influence upon the operation of falls of mean temperature, which were shown in the author's former paper to promote decrease of sickness, he infers from his tabulations that falls of mean temperature are assisted in their normal operation upon sickness by a simultaneous reduction of the daily range of temperature, and lessened in their normal operation by a simultaneous increase of the daily range; and that this is established by observing—1. That the clear gain by way of decrease of sickness in the group of weeks in which falls of mean temperature were associated with reduction of daily range was greater, and in the group of weeks in which they were associated with increase of daily range was less than the relative extent of the falls might have been expected to occasion. 2. That the frequency with which decrease of sickness occurred in the former group of weeks was greater than in the latter—a fact partly accounted for, however, by the difference in the mean extent of the falls. 3. That in the weeks of decreased sickness there was obviously in operation some cause rendering the normal operation of the actual mean falls more powerful when associated with lessened than when associated with increased range. Other supplementary causes appear to have thrown into the shade the operation of alteration of range in those weeks in which increase of sickness abnormally occurred. 4. The exception to the above facts is to be found in those weeks in which the daily range was considerably altered. In these the clear gain by way of decrease of sickness, and the frequency of occurrence of decreased sickness, were both greater in the weeks of increased than of diminished range. This result was probably due to the overwhelming operation of other supplementary conditions not yet investigated by the author. Comparing now the influence of variations of mean daily range in the weeks of rise of mean temperature with that exerted in the weeks of fall of mean temperature, the author infers—1. That such influence is more obvious in the weeks of fall than in those of rise of mean temperature generally. 2. That this difference, more observable in respect of

the amount of clear gain of increase or decrease of sickness than in respect of the frequency with which increase or decrease of sickness happened, probably resulted from the different frequency and force with which other more powerful supplementary conditions operated on the weeks of rise or fall respectively. 3. That in the weeks of rise these overwhelming supplementary conditions operated most obviously to disturb the result in the weeks of slight alteration of range, and in the weeks of fall most obviously in the weeks of considerable alteration of range.

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## Art. 2.—*The Treatment of Cholera and Diarrhœa.*

### By Sir Thomas Watson, Bart., M.D., late President of the Royal College of Physicians.

(*British Medical Journal.*)

Sir Thomas Watson, M.D., whose lectures on medicine have most influenced the practice of this half century, writes in the *British Medical Journal*:—"I find it necessary to modify considerably some advice which I formerly gave my auditors as to the treatment of a disorder which appears to be again increasingly prevalent throughout the country." The form and features of this dreaded pestilence have, he says, "been the same in all its visitations to this country. Must we still, as heretofore, make the mortifying confession that our art is unable to cope with it successfully? Not so, I trust. Among the many and discordant expedients which have been brought forward and fairly tried for the cure of cholera, one, long since suggested, and almost scornfully rejected, has emerged of late into clearer significance and more intelligible and ascertained value. I mean the method—recognised as legitimate and reasonable in various other maladies—of 'elimination,' of which the main advocate has been Dr. George Johnson, Professor of Physic in King's College." After commenting upon the facts and principles involved, Sir Thomas Watson lays down the following rules, in language partly his own and partly that of Dr. George Johnson:—"Diarrhœa ought not to be neglected even for an hour. One important and guiding rule of treatment is not to attempt by opiates, or by other directly repressive means, to arrest a diarrhœa while there is reason to believe that the bowel contains a considerable amount of morbid and offensive materials. The purging is the natural way of getting rid of the irritant cause. We may favour the recovery by directing the patient to drink copiously any simple diluent liquid—water (cold or tepid), toast-water, barley-water, or weak tea; and we may often accelerate the recovery by sweeping out the alimentary canal by some safe purgative, and then, if necessary, soothing it by an opiate. Castor-oil, notwithstanding its unpleasant taste, is, on the whole, the safest and best purgative for this purpose. It has the advantage of being very mild and unirritating, yet withal very quick in its action. A tablespoonful of the oil may be taken floating on cold water, or any other simple liquid which may be preferred by the patient. A mixture of orange juice or lemon juice with water forms an agreeable vehicle for the oil. If the dose be vomited it

should be repeated immediately, and the patient should lie still, and take no more liquid for half an hour, by which time the oil will have passed from the stomach into the bowels. Within an hour or two the oil will usually have acted freely. Then a tablespoonful of brandy may be taken in some thin arrowroot or gruel, and if there be much feeling of irritation, with a sense of sinking, from five to ten drops of laudanum may be given in cold water. These means will suffice for the speedy arrest of most cases of choleraic diarrhœa. If the patient have an insuperable objection to castor-oil, or if the oil cannot be retained on the stomach, ten or fifteen grains of powdered rhubarb, or a tablespoonful of the tincture of rhubarb, or a teaspoonful of Gregory's powder, may be substituted for the oil. If the diarrhœa has continued for some hours, the stools having been copious and liquid; if there be no griping pain in the bowels, no feeling or appearance of distension of the intestines, the abdomen being flaccid and empty, and the tongue clean, we may conclude that the morbid agent has already purged itself away. There will therefore be no need for the castor-oil or other laxative, and we may immediately give the brandy in arrowroot and the laudanum as before directed. The rule in all cases is not to give the opiate until the morbid poison and its products have for the most part escaped—not to close the door until the 'enemy' has been expelled. While there are some cases in which the evacuant dose is not required even at the commencement of the attack, there are many more in which the opiate is unnecessary in the later stage. In some cases of severe and prolonged diarrhœa it may be necessary to repeat the oil and laudanum alternately more than once at intervals of three or four hours. Practical skill and tact are required to discriminate these cases. It must be borne in mind that when the choleraic secretions are being actively poured out from the blood-vessels, the bowel, though it may have been completely emptied by a dose of oil, may quickly again become filled with morbid secretions, and hence the need for an occasional repetition of the evacuant dose. If the diarrhœa be associated with vomiting, this should be encouraged and assisted by copious draughts of tepid water. The vomiting affords relief, partly by the stimulus which it gives to the circulation, but mainly by the speedy ejection of morbid secretions. If there be nausea without vomiting, and, more especially, if the stomach be supposed to contain undigested or unwholesome food or morbid secretions, an emetic may be given—either a teaspoonful of powdered mustard, or a tablespoonful of common salt, or twenty grains of ipecacuanha powder, in warm water. In all cases of severe diarrhœa the patient should remain in bed."

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## Art. 3.—*Causes of Cholera.*

### By Professor Pettenkofer.

(*Medical Press and Circular*, May 12.)

Professor Pettenkofer gives the following as a summary of his elaborate investigations into the causes of cholera:—

"In my opinion four conditions are essential in order to bring about an epidemic of cholera:

1. A specific germ.
2. Certain local conditions.
3. Certain seasonal conditions.
4. Certain individual conditions.

"I have not investigated the nature of the cholera germ as disseminated by human intercourse. I have only taken for granted that it exists in the intestinal discharges of persons coming from infected places. My own investigations have been chiefly confined to the second and third before-mentioned conditions. Hitherto I have considered the human subject only so far as he is the bearer of the infecting matter of cholera or of the germ of this matter; and have with facts contended against the pure contagionists, who declare that the infecting matter is produced by a process of multiplication within the bodies of those affected by the disease. My chief proofs of this have always lain in simple *facts* (independent of any theory) as to the spread of cholera over large districts. There are certainly *places* enjoying complete immunity from cholera, also *periods* of immunity. The development of epidemics, and the immunity of many places, is totally inexplicable, by the simple assumption of contagion from person to person. Observe the spread of epidemics along the course of railways and other ways of intercommunication. Nor are they to be explained by certain individual disposition of person (food, drinks, domestic arrangements, age, position, &c.); but the circumstances require, besides these, the existence of local and seasonal aiding causes, which have to be assumed.

"Are these in immediate relation to the cholera germ itself, or to the individual disposition? Facts speak in favour of the first opinion only. 1. Persons from an unaffected place going to an affected one, are attacked quite as numerously and as soon as the persons who constantly reside in these places. 2. Cases are on record where a person from an infected district conveys (in a way not clearly ascertained) infecting matter in a place enjoying complete immunity from cholera; and there, by means of his limited amount of infecting matter, infects a few persons who themselves had never been subject to the local conditions of an infected place, and therefore could not have had their individual disposition altered by it. Facts imperiously demand that we should consider that the 'seasonal' and 'local' conditions are intimately connected with the cholera germ, although they may, in addition, be in a condition to act on the predisposition also.

"The infecting matter, in my opinion, is not a product of the human intestines, but of the soil. In so far as we consider the cholera germ of an organized nature and capable of various degrees of development, it is possible—nay, very probable—that there may be various degrees of infection. The distinction between cholera 'germ' and cholera 'infecting matter' must be noted. The cholera germ stands in the same relation to the infecting matter as the seed does to the fully developed plant."

## Art. 4.—*Treatment of Gall-Stones.*

By T. H. Buckler, M.D.

(*The Lancet*, February 13.)

Dr. T. H. Buckler, of Baltimore, recommends the joint administration of chloroform and succinate of peroxide of iron for the dilution of gall-stones, and states that in his hands the remedies have proved very successful, the latter drug being administered for some time continuously.

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## Art. 5.—*Hydatid Tumour of the Liver treated by Simple Puncture.*

Under the care of Dr. Duffin, King's College Hospital.

(*The Lancet*, January 30.)

The following case aptly illustrates the value of the method of puncture with the small trocar in the treatment of cases of hydatid tumour of the liver :—

S. R., aged twenty-seven, a man of rickety build, but otherwise of a sound constitution, applied at King's College Hospital, on Oct. 13th, 1868, complaining of indigestion and aching pains about the right side and shoulder. On examining the spot indicated the right inferior mammary and hypochondriac regions were found to bulge considerably, and the hepatic dulness extended vertically downwards from the nipple over a space of nine inches and a quarter. The possibility of a hydatid tumour was at once opened up, but the necessity of great caution in the diagnosis became at the same time manifest, owing to the extreme deformity the thorax had undergone during childhood from the process of rachitis, and from the existence of considerable lateral curvature of the spine. These rendered all transverse measurements next to worthless. Nevertheless a relative increase of half an inch in the right semi-circumference could be established. This proved to be half an inch below the line of the costal cartilages. Much more valuable information was obtained on tracing the upper limit of the dull area. This was found to represent a curve, with its convexity directed upwards, and reaching its highest point at the fourth right rib a little outside the nipple. From this, its greatest point of elevation, the line trended sharply downwards and backwards to the tenth rib, and downwards and inwards to the xiphoid cartilage. The lower edge of the liver was sharp and supple, and convex in the opposite direction. The summit of the bulge thus corresponded to the centre of the organ, and at this point an obscure sense of fluctuation could be detected. Beyond the pushing upwards of the right leaf of the diaphragm, no notable visceral displacement existed. Vesicular breathing could be traced to the upper edge of the dulness. The only annoyance complained of was an indistinct sense of aching in the hepatic region. The inferior edge of the dull space was found to vary its position slightly with the movements of respiration and the changes of posture of the

patient, giving presumptive evidence of the absence of adhesions. The rest of the evidence was mainly negative. Neither ascites, jaundice, nor evidence of infection existed.

After a consultation with Mr. Henry Smith, Dr. Duffin requested that gentleman to make an exploratory puncture with a long, fine trocar and canula. Twenty-eight ounces of a clear, transparent, watery fluid were readily withdrawn. This proved to contain numerous echinococci and free hooklets. As soon as the jet of liquid began to slacken, the end of the canula was at once occluded with the thumb, and the instrument withdrawn. During the latter part of the operation the patient complained of a deep sense of aching in the region of the liver. A flannel bandage was at once applied to fix the abdominal muscles, and a full opiate administered. About six hours later the patient had two sharp rigors, and lay with his knees drawn up in dorsal decubitus. The belly generally was tympanitic, and somewhat tender. The aspect was that of shock; the pulse had risen to 104, the temperature to 100°. An additional opiate was given. A fair night followed; and the next morning the temperature had fallen, and the abdominal tenderness was less; his pulse, however, had risen to 120. On the second day from the operation the pulse ratio began to slacken, and from that time forth he had no unpleasant symptoms. On the fifth day a physical examination showed a diminution of two and a half inches in the vertical dulness, and of half an inch in the semi-circumference. The man has continued under observation till the present time. The vertical dimension has since fallen an additional half inch; and he is completely comfortable.

Dr. Duffin remarked upon this case:—"The only diagnostic difficulty which we had to contend with consisted in the deformity of the chest by the rickety softening and subsequent distortion of its walls. It served to bring out in strong relief the value to be attached to the great convexity of the upper line of dulness. This, together with the great increase of the vertical dimensions of the liver, the slight bulge below the costal cartilages, the almost painless character of the swelling, and the general good health of the patient, constituted the foundation of the diagnosis. In determining the propriety of an operation, the probable absence of adhesions had to be borne in mind; but if puncture with a very fine trocar be resorted to, I believe that little importance need be attached to that circumstance. With a few simple precautions, the chance of any hydatid fluid escaping into the peritoneal sac may be reduced almost to the vanishing point. One of the moments of greatest danger is that of the withdrawal of the canula. As it quits the liver charged with hydatid fluid it should be occluded with the finger, and so brought out loaded with its contents. At the same moment the abdominal wall should be firmly pressed against the liver. The elasticity of the hydatid exocyst is so great that only an extremely minute portion of fluid is likely to follow the canula. The smaller the instrument selected, the less will be the chance of any hæmorrhage; and it is further remarkable how tolerant the peritoneum is of blood as contrasted with other fluids. Another advantage of a very fine canula is, that the fluid leaves the hydatid cyst very gradually. This will be obvious if we consider the vascularity of the organ implicated,

and the changes in its relations that the withdrawal of a considerable amount of fluid must necessarily occasion. Neither is it necessary to evacuate the cyst completely. Even with a very partial emptying, it is probable that the elasticity of the exocyst can peel off and fold the endocyst so as to interfere with its vascular supply, and ultimately induce its degeneration. Next in importance to the method of the operation stands the most complete rest of the abdominal viscera which can be obtained. Hence I would strongly recommend fixing the abdominal walls with a flannel bandage, and the immediate administration of a free opiate. In the instance before us some rigors, general abdominal tenderness, and slight febrile signs, ensued a few hours subsequent to the operation. Within twenty-four hours, however, all threat of danger had passed away. Something similar to this has been so frequently noted after this method of interference that it may be considered almost as the rule. Provided the temperature does not exceed 101°, I believe it need not alarm us. I am inclined to ascribe it to the great change in the relations of the portal system which the decrease of pressure within the liver must necessarily entail. It is too transient and too frequently observed to be attributable to aborted peritonitis. According to the statistics collected by Dr. Murchison, a first puncture is also a final one six times out of seven. Should a second be requisite, no additional risk is involved in a repetition of the first process. If suppuration of the cyst supervene, free evacuation should of course be at once resorted to. The accident happened, according to Dr. Murchison's statistics, ten times out of forty-six, but even in seven of these free emptying of the cyst was followed by a favourable result."

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## Art. 6.—*The Symptoms of Thrombosis of the Cerebral Sinuses.*

### By Dr. Hubner.

(*Archives der Heilkunde,* ix. 5, 1865 ; *Archives Générales de Médecine.*)

After having analysed the different works published up to the present time on thrombosis of the cerebral sinuses, Dr. Hubner gives a detailed report of a case in which the patient succumbed to a thrombosis of the sinuses, not diagnosed during life. The patient presented at first general head symptoms, and soon afterwards neuralgia of the right supra-orbital nerve, blepharoptosis on the same side, œdema of the eyelids, loss of hearing, and finally facial paralysis on the right side, with blood stases in the corresponding frontal veins. All these phenomena were very transient.

Dr. Hubner thinks that the diagnosis of thrombosis of the cerebral sinuses should be based upon *three* orders of symptoms.

1. Stasis in the vessels situated on the proximal side of the point of obstruction.
2. Dilatation of the collateral veins.
3. Direct signs of compression at the level of the seat of vascular obstruction.

The stasis in the vessels generally gives rise to slightly characteristic cerebral symptoms.

Venous dilatation may exist in the collateral vessels of the walls of the cranium, or rather it may show itself in the veins which unite the vessels of the face to those of the cranium. In the latter case, vascular dilatation has considerable diagnostic importance. In obstructions of the transverse sinuses one may observe dilatation of the emissary veins of Santorini and of the mastoid vein. The parietal veins also are dilated in cases of dilatation of the longitudinal or ethmoidal sinuses. When a thrombosis exists of the ophthalmic vein which carries to the sinus the blood of the frontal vein, of the bulb, the eyelids, and the muscles of the eye, one may observe an injection of the skin of the forehead, with œdema of the eyelids, of the globe of the eye, and even of the muscles: hence doubtless the prominence of the eye described in cases of this kind.

The local symptoms are brought on by direct compression of the nerve trunks; this compression may be also produced secondarily through the œdematous venous walls. These facts are very clear in thrombosis of the cavernous sinus. In fact this region is traversed by the common oculo-motor nerve, the pathetic, the external oculo-motor, the ophthalmic branch of Willis, and even the branches of the great sympathetic.

In the case reported by Dr. Hubner, there was thrombosis of the superior longitudinal sinus, and of the transverse sinus, afterwards of the cavernous sinus on the right side, and finally of the corresponding ophthalmic vein.

The thrombosis commenced in the longitudinal sinus, and was continued into the transverse sinus; this vascular obstruction brought on an intense collateral stasis of all the sinuses at the base of the brain. The stasis thus produced in the cavernous sinus led to dilatation of the collateral veins of the face, and to compression of the nerves, including the great sympathetic. Thence dilatation of the cerebral arteries. When the thrombosis had extended as far as the cavernous sinus, the phenomena of stasis and compression diminished in intensity. It is easy to explain in this manner the mutability of the symptoms, which was indicated by Lebert as one of the characteristic phenomena of thrombosis of the sinuses.

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## Art. 7.—*On the Treatment of Scarlet Fever.*

### By Peter Hood, M.D.

(*British Medical Journal*, February 6.)

In the ordinary run of cases, Dr. Hood writes, the first symptom usually complained of is headache, next soreness and swelling of the throat, followed by vomiting; and we find that the afore-mentioned symptoms are relieved by the vomiting taking place. The healthy action of the liver is interfered with, and the bile, instead of taking its natural course, finds its way into the stomach, and is invariably found in the materials ejected. Hence the importance of giving an emetic at

the onset of the fever, if vomiting have not occurred. We may to a certainty judge, for our guidance, of the presence of bile in the stomach by the appearance of the tongue; if this member be covered, or only partially so, with a brown fur, bile will be thrown up as soon as the act of vomiting occurs.

We sometimes meet with a case of continuous vomiting, attended with extreme irritability of stomach; this condition, if judiciously managed, is not fraught with danger, as there is more to be apprehended from the absence of vomiting than when it is in excess. The perverted course of the bile points to a defect existing in the liver, which defect is one of congestion. Here, again, we are called upon to assist nature in relieving this important organ; no medicine operates so beneficially in this case as a dose of calomel and scammony. And if we take the appearance of the tongue as our guide throughout the whole period of the fever, and when it is otherwise than perfectly clean, administer gentle alterative medicines to sustain the healthy action of the liver, we shall most effectually prevent dropsy from occurring, and avoid deafness and all the other sequelæ attendant on this disease.

When the stomach has been relieved by vomiting, either by the operation of nature or art, and the liver and bowels also by the administration of an efficient dose of medicine, it is then the proper time to avail ourselves of the antiseptic property of quinine, *which drug is, according to Dr. Hood's experience, as powerful in destroying the scarlatinal germ as it is potent in the cure of ague.* Dr. Hood does not hesitate to say that, if the previous injunctions as to the emetic and purgative are attended to, any medical man who has never before employed this medicine in the treatment of scarlet fever, will never employ any other when he witnesses the gratifying progress of a case only twenty-four hours after using it. He will find the pulse diminished in frequency, the soreness of throat and difficulty of swallowing scarcely complained of, obviating all necessity for the use of gargles, sponging, caustics, &c., the heat of skin most sensibly decreased, and the restlessness, frequently so distressing a symptom, succeeded by a calm composure. In the worst forms of scarlet fever, in which the blood of the patient is in a dyscrastic state, indicated by virulent coryza, discharges from the mouth, eyes, and ears, owing to the disintegration of the mucous surfaces, it is imperative to administer iron with the quinine, and suitable doses of the tincture of sesquichloride of iron, or of the sulphate of iron, should be diligently persevered with; at the same time paying strict attention to procuring a daily alvine evacuation.

Dr. Hood next refers to one other subject connected with the treatment of scarlet fever, which he regards almost as important as the use of quinine itself. This is the disinfection of the sick room by the employment of chlorine; and here he differs from what Dr. Budd's experience has led him to say on this subject.

Dr. Hood's experience of the beneficial effects of a free use of chlorine is directly opposed to Dr. Budd's views; and he is able to state from his own observation that, if this gas be properly used in the sick room of the patient, *the contagion of scarlet fever will be confined to that room.* His method of using it is as follows. He directs large coarse towels to be saturated with a solution of chloride of lime, and hung over the backs

of chairs, and a sheet to be hung in front of the bed-room door. The quantity required for disinfecting the room may be judged of by smell and taste on going into it. This process should be continued throughout the course of the fever.

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## Art. 8.—*On the Treatment of Scarlet Fever.*

By Charles T. Thompson, M.D., M.R.C.P.

(*The Lancet*, February 27.)

On the very first access of the fever, Dr. Thompson puts his patient into a warm bath, and repeats this as often as the strength of the patient will allow or the severity of the attack may require. The first effect of this treatment is to produce a soothing and refreshing feeling in the patient, to be followed soon by such an eruption on the surface, of so vivid a colour and in such amount, as would astonish those who have never witnessed it. Thus one of the greatest dangers of this fearful disease—the suppression of the eruption—is escaped.

After the first or second bath the appetite usually returns, so by getting down light and nutritious food the means are afforded of supporting the strength of the patient during one of the most trying periods of the disease. By this treatment the excreta from the skin are removed as rapidly as they are deposited, doing away immediately with the source of infection, leaving no room for the dissemination of the disease. The desquamation of the cuticle is greatly promoted, it being removed in small particles, and never in large pieces.

The drying of the body after the bath is effected by soft linen cloths, sufficiently large to envelope the whole person, and with as little friction as possible; in fact, the surface is what may be called "dabbed" dry, as the excitement from friction of the skin often produces great mischief.

The irritation of internal organs is also at once relieved by this continual determination to the surface. And as the condition of the latter becomes more healthy, the nasal, renal, and alvine secretions, with those of the throat, are speedily deprived of their noxious properties, and quickly recover a healthy character, thus again removing additional sources of infection.

The fever rapidly subsides, and convalescence usually proceeds more or less quickly, according to the mildness or severity of the attack. Another advantage of this treatment is, that a very serious case is soon reduced to a mild one, and the patient recovers in less than half the usual time.

This practice Dr. Thompson has pursued for more than fifteen years, during which period he has attended many cases of scarlet fever; but has never lost a single patient from this disease, nor can he call to mind at this moment any one case in which the infection has been carried from the patient to any other individual.

During the convalescence of the patient the bath may be used daily, or every other day, according to the feelings or wish of the patient; but its temperature should be gradually reduced, so as to invigorate and not exhaust, and also to enable the surface successively to resist the alter-

nations of heat and cold to which the patient may be exposed in moving about from place to place.

The terrible sequelæ of this formidable disease are, Dr. Thompson adds, by the treatment above recommended, seldom if ever met with. No nurse or washerwoman has, to his knowledge, suffered from the performance of her avocations. Of course the necessary medicines must be administered as occasion requires.

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## Art. 9.—*How to prevent Typhoid Fever (otherwise called Gastric Fever, or Low Fever) from spreading.*

By William Budd, M.D.

(*British Medical Journal*, March 27.)

The means by which typhoid fever may be prevented from spreading are very simple, very sure, and their cost next to nothing. They are founded on the discovery that the poison by which this fever spreads is almost entirely contained in the discharges from the bowels. These discharges infect—1. The air of the sick-room; 2. The bed and body linen of the patient; 3. The privy and the cesspool, or the drains proceeding from them. From the privy or drain, the poison often soaks into the well, and infects the drinking water. This last, when it happens, is of all forms of fever-poisoning the most deadly. In these various ways, the infection proceeding from the bowel-discharges often spreads the fever far and wide. The one great thing to aim at, therefore, is to disinfect these discharges on their very escape from the body, and before they are carried from the sick room. This may be perfectly done by the use of disinfectants. One of the best is made of green copperas. This substance, which is used by all shoemakers, is very cheap, and may be had everywhere. A pound and a half of green copperas to a gallon of water is the proper strength. A teacupful of this liquid put into the night-pan every time before it is used by the patient, renders the bowel-discharge perfectly harmless. To disinfect the bed and body linen, and bedding generally, chloride of lime or MacDougall's powder is more convenient. These powders should be sprinkled, by means of a common dredger, on soiled spots on the linen, and about the room to purify the air. All articles of bed and body linen should be plunged, immediately on their removal from the bed, into a bucket of water containing a tablespoonful of chloride of lime or MacDougall's powder, and should be boiled before being washed. The privy, or closet, and all drains communicating with it, should be flushed twice daily with the green copperas liquid, or carbolic acid diluted with water. In the event of death, the body should be placed as soon as possible in a coffin sprinkled with disinfectants. Early burial is on all accounts desirable. In towns and villages where the fever is already prevalent, the last rule should be put in force for all houses, whether there be fever in them or not, and for all public drains. As the hands of those attending on the sick often become unavoidably soiled by the discharges from the bowel, they should be frequently washed. The sick room should be kept well ventilated day and night. The greatest

possible care should be taken with regard to the drinking-water. Where there is the slightest risk of its having become tainted with fever-poison, water should be got from a pure source, or should at least be boiled before being drunk. Immediately after the illness is over, whether ending in death or recovery, the dresses worn by the nurses should be washed or destroyed, and the bed and room occupied by the sick should be thoroughly disinfected. These are golden rules. Where they are neglected, the fever may become a deadly scourge. Where they are strictly carried out, it seldom spreads beyond the person first attacked.

N.B.—A yard of thin wide-width gutta-percha placed under the blanket, under the breech of the patient, by effectually preventing the discharges from soaking into the bed, is a great additional safeguard.

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## Art. 10.—*On the Treatment of Typhoid Fever by Creasote.**

By M. G. Pécholier.

(*Gazette Hebdomadaire*, No. 13, 1869.)

M. Pécholier holds that the pathological modification of the blood in typhoid fever depends upon the action of an organized ferment, which works on the blood in the same manner as all organized ferments do, according to the demonstrations of M. Béchamp. Removing from the blood the materials of its nutrition, it gives up those of its own decomposition, and thus causes a radical change in this fluid.

Typhoid fever, according to M. Pécholier, is then the result of the modification produced in the living economy by vitiated blood and of the reaction of the economy against the cause of the disturbance.

These considerations have led to the proposal of a new therapeutical indication. Profiting from the works of M. Béchamp on the effects of creasote against the development of organized ferments, the author thought that if creasote could prevent the appearance or the multiplication of typhoid ferments, it would become a powerful remedy against so obstinate an affection to therapeutics. With this idea creasote was employed in sixty cases of typhoid fever which were treated in Hôpital Saint-Eloi during the three autumnal months of 1868. The patients took every day, by spoonfuls, a mixture containing three drops of creasote, two drops of essence of lemon, ninety grammes of pure water, and thirty grammes of orange-flower water; the essence of lemon acting as a corrective, and probably also as an adjuvant. At the same time two enemata, each containing from three to five drops of creasote, were administered daily.

The following were the results of these trials:—

In every case where the typhoid fever was in an advanced stage the therapeutical results were absolutely nil. In those cases, on the contrary, and these were numerous, where the patients had been admitted sufficiently early for one to deal with the commencement, or at least in a stage not far removed from this, the treatment acted very efficaciously in diminishing the intensity of the fever and shortening its duration.

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* Communicated to the Académie des Sciences.

From the facts and conclusions given in his paper, M. Pécholier has been led to suppose that creasote, when administered in small doses in mixtures, enemata, and probably also in the form of vapour, at the commencement of typhoid fever, and during the first days of its invasion, has powerful effects in diminishing the intensity and shortening the duration of the disease. He also adds, that this agent will doubtless prove radically efficacious when enployed in large buildings as a prophylactic means at the time of an epidemic.

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## Art. 11.—*The popular idea of Counter-Irritation.*

By Francis E. Anstie, M.D., F.R.C.P.

(*Medical Press and Circular*, March 3.)

At a meeting of the Medical Society of London, held February 15th, Dr. Anstie read a paper on the popular idea of counter-irritation. His own views presented a very complete though undesigned coincidence with those propounded by Dr. Dickinson in a late number of the "St. George's Hospital Reports." As to the value of counter-irritation in medical practice, proof is singularly deficient, and we are unable to explain the rationale of the process. The term itself is almost a relic of barbarism of the times when the human body was supposed to be ruled by intestine demons. The author passed in review the various structures which could be possibly influenced by the process known as counter-irritation.

1. The Blood-vessels.—These could only be affected within a narrow range. In the case of counter-irritation of joints, the operation might be explained on account of the connexion of the superficial with the deeper vessels, and consequently the depletion of one being the depletion of the other; but in the case of counter-irritation of the chest for the possible relief of an internal congestion, no such explanation can be given.

2. The Nerves.—The difficulty here is the fact, taught by ordinary experience, that peripheral irritation is more productive of morbid than of beneficial results.

3. The Absorbents.—Here the action must be almost wholly a bad one. The author condemned the routine practice of blistering. The foundation of it was too often the lingering love of something like a charm.

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## Art. 12.—*Remarks on the Natural History of Rheumatic Fever.**

By William W. Gull, M.D., and Henry G. Sutton, M.B.

(*The Lancet*, January 16 and 30.)

The authors are desirous of bringing under the notice of the profession a few more cases of rheumatic fever which have been treated by

* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, January 12.

mint water, or, in other words, which have been allowed to run their natural course. They moreover desire to point out what appears to be the natural course of rheumatic fever with reference to the heart, and to show in what proportion of cases the heart became involved when rheumatic fever was treated by mint water. Lastly, to consider if there is any evidence to prove that the heart is more frequently involved when rheumatic fever is treated by mint water, or when treated by alkalies, by lemon-juice, or by blisters. This paper is based on twenty-five cases of rheumatic fever, twelve of which occurred in Guy's Hospital, most of them under the care of Dr. Gull, and thirteen occurred in the London Hospital, under the care of Dr. H. G. Sutton. The particulars of the twelve cases have been already recorded in the Guy's Hospital Reports, and the remaining thirteen cases are recorded in the present communication to the Society. Of these twenty-five cases, eighteen were females and seven were males. The average age of the patients was nineteen years. All the patients were suffering from their first attack of rheumatic fever, and the disease was well marked. The temperature of the body during the acute symptoms reached in some cases 104° and 103°; in other patients it was 101° and 102°. Taking an average of all these cases, the temperature was about 102° during the acute stage. The average duration of the acute symptoms, as estimated by the thermometer and general symptoms, was ten days. Taking all the cases that have been recorded by the authors, the average duration was 9·1 days. The total duration of the acute symptoms from their commencement, including the time the patients were ill before coming into the hospital, to their cessation, was on an average seventeen days. The authors next proceed to inquire if the duration of rheumatic fever is longer when treated on the expectant plan, or when treated by drugs; and they consider that no one plan of treatment has any great advantage as regards shortening the duration of the disease. Drs. Gull and Sutton agree with Dr. Barclay in considering that we are not yet in a position to say that alkalies exercise any influence in curtailing the duration of the disease. They are also of the same opinion respecting lemon-juice. With regard to Dr. Herbert Davies's blister treatment, they remark it relieves very much the pain and sufferings of the patients in some cases; but it does not appear to curtail the rheumatic process. And the authors remark, "Our cases appear to us to teach that the rheumatic process runs its course under the expectant treatment as favourably as under the treatment by drugs." Drs. Gull and Sutton next proceed to inquire what evidence there is to show that the drug treatment prevents the heart becoming diseased, and they give a detailed account of the state of the heart in their twenty-five cases. Every one of these twenty-five patients were suffering from their first attack of rheumatic fever, and twelve of the number had organic disease of the heart when admitted into the hospital; two had some, but not very well-marked, evidence of organic disease of the heart when admitted; and in eleven there was no heart disease on admission. No organic disease of the heart supervened while under treatment, and the heart was healthy when these eleven patients left the hospital. They remark the experience gained in these cases of rheumatic fever, which were allowed to run their

natural course uninfluenced by drugs, tends to prove that, if patients are admitted into the hospital suffering from a first attack of rheumatic fever, and the heart is not diseased on admission, it will very rarely become organically diseased while patients are under treatment. The opinions of Drs. Garrod, Dickinson, Herbert Davies, Geo. Owen Rees, and Basham are then quoted to show that the heart did not, or very rarely did, become diseased when rheumatic fever was treated in the hospital by full doses of alkali, by blisters, by lemon-juice, or by nitrate of potash, and they observe: "It appears to us that there is not sufficient evidence to prove that any of the advocated systems of treatment have power to prevent the heart becoming diseased. In concluding that the treatment has prevented the heart becoming diseased, we have overlooked the fact that there might be no tendency at the time the patients were under treatment for the heart to become diseased, and our cases show that the good results which have been attributed to the influence of the remedies also occurred when no special remedies were used. Our cases, therefore, tend to teach that these good results were due, not to the drugs, but to the natural course of the disease." The authors then endeavour to show that when the heart becomes diseased in rheumatic fever, it does so at an early stage of the disease; and if it does not become diseased during the first week of the rheumatic fever, it rarely does so afterwards; and they give abstracts from twenty-two cases of rheumatic fever to demonstrate this.

Drs. Gull and Sutton's conclusions are as follows:—

That when the patient's heart was healthy on admission into the hospital, it was very rare for it to become organically diseased while the patients were under treatment by mint water—or, in other words, when the rheumatic fever was allowed to run its natural course.

That the evidence before the profession shows that the heart very rarely became diseased while patients were under treatment in the hospitals, and that this was the case when patients were treated by alkalies, lemon-juice, or by blisters to the joints.

That there is not sufficient evidence before the profession to prove that any of the advocated remedies have power to prevent the heart becoming diseased.

That in rheumatic fever the tendency is for the heart to become diseased during the first few days of the fever; and, should it escape the early days of the disease, there is each day a lessening tendency to its implication. Hence the cases would appear to show that, if at the end of the first week of the rheumatic fever the heart is free from disease, then there is little or no tendency for it to become diseased during the later weeks.

That the reason why the heart did not become diseased when rheumatic fever was treated by alkalies, blisters, and by lemon-juice is to be attributed, not to the influence of the drugs, but to the natural course of the disease; for the patients did not come under treatment until the rheumatic fever had been going on some days, and until the period when the heart was most liable to become diseased had passed over.

The authors conclude by saying: "Hitherto the investigation into the therapeutics of the rheumatic process has been rendered all but

valueless by the deficiency in preliminary data. At present, therefore, as regards treatment, our cases seem to show that we are limited to a careful regimen of the patient. Rest, mechanical and physiological—rest in the very outset of the disease. We ought not to wait until the rheumatic process has become well developed in the joints. To regulate the temperature. To moderate excessive skin function by sponging the surface of the body. To allay pain, by placing the patient in an easy position, and sometimes by opiates. To sustain the organic nerve power by light diet, and occasionally by small doses of alcohol. To procure rest by the simplest means, especially avoiding such movements of the body as may excite the circulation. In fine, to place the patient in a physiological state of mean rest, if it may be so termed, of the nervous, the circulatory, the muscular, and digestive systems. To do this fully will often tax all our energies, and require often more consideration than is requisite for prescribing any supposed appropriate drug treatment. We are therefore, at present, advocates of the exactest treatment of the patient under acute rheumatism, though we may doubt the value of so-called specific drugs."

The discussion was opened by Dr. Fuller, who, after expressing his obligations to the authors of the paper, said that their researches as to the natural course of rheumatic fever rather served to confirm the old notion that its proper cure was six weeks in blankets; but, although they made out that nine or seventeen days was the regular course of the disorder, the facts were rather different. He had consulted Dr. Gull's second report, to which, however, he would not have referred had the facts of the present cases been read. The first was forty-two or fifty days under treatment, the second at the end of twenty-two days was doing well, the third went out at the end of forty-two days, the fifth was discharged at the end of fifty-four days, and so on. The course of the complaint was, therefore, to be five or six weeks under treatment. If they took the alkaline treatment, he found that the average of his own cases was seventeen or eighteen days till they left. Here the two systems were compared. As to the condition of heart, it was said that the liability to heart complications was greatest at first. This was quite true; but this was only saying that those parts which are most liable to attack are those which are attacked first. He must demur to the slight liability said to exist to such complications. When registrar at St. George's during four years many cases of heart complication occurred during the second and third weeks, and in his subsequent experience he had seen this over and over again. As to what was called rheumatic fever, at St. George's the term was limited to those cases characterized by fever, furred tongue, and quick pulse. The reason why alkalies were so much spoken against was that other affections, as pyæmia and acute gonorrhœal rheumatism, had been mistaken for the true complaint; for in these diseases alkalies were of no service, but under their use the patient got worse. There was no disease which yielded to treatment so readily as acute rheumatism. When he could number cures by the hundred without pericarditis, it was fair to conclude that the remedy was of some service. Alkalies were quite as good in private practice, and he would still believe in alkalies—they were almost specifics.

The President remarked that to the list of diseases confounded with acute rheumatism Dr. Fuller might have added acute periostitis.

Dr. Fuller: Yes, and many cases of gout.

Dr. Gull said when this question was taken up at Guy's he took great care to ascertain exactly the duration of the disease and the period of retention in the hospital. The only true criterion of the former was temperature; consequently Dr. Fuller's data were fallacious. They must have something more exact than the stay in hospital. Dr. Fuller also remembered many instances of heart affection occurring in the second or third week. Such complications require the greatest possible care in diagnosis when they enter; otherwise they may seem to be developed in the second or third week. This was another source of fallacy. In such cases as those reported the question of diagnosis might be put on one side. Gonorrhœal rheumatism does not occur in young girls of thirteen and fifteen.

Dr. Stewart remarked that about six years ago Dr. Gull narrated the facts of some sixty cases of acute rheumatism treated without internal remedies, and he wanted to hear more of his results; not getting these, he proceeded to make some investigations on his own account. He tried old plans, in some of which he had considerable confidence; but he found that he had little reason to be so, especially with regard to alkalies, for heart affection frequently came on when under the full alkaline treatment. He had observed fifty-six cases of acute rheumatism in 1864-66, and, on reckoning, he found that the average number of days the cases were under treatment, whether with or without alkalies, was forty-two, and heart complications were also nearly equal in both. In future, observers should agree as to the termination of the disorder. In many of his own cases the temperature had not been carefully taken, which he regretted, as he looked on the temperature as of great importance. In many cases the acute symptoms came back even after the patient had left the hospital. The question was not to be decided by hundreds or even thousands of cases, but by prolonged study extending over many years, for the fever varied in different years. The eruptions were different, and sometimes the symptoms became typhoid. In these last cases he was glad not to have given alkalies. He had noticed in the *Guy's Reports* that opium was sometimes given; he himself had never used anything except belladonna applied over the heart.

Dr. Gull said the opium was not given except when absolutely necessary, and then not against the rheumatic process, but merely to relieve pain.

Dr. Dickinson said that, as to heart disease, he doubted its frequent occurrence in hospital. Out of 113 cases of heart complication he had collected, 35 occurred in the hospital, or about 1 in 4. In 28 cases treated without alkalies 12 were seized in the second week, 7 in the third, and 6 in the fourth.

On the motion of the President, the debate was adjourned.

At the meeting on the 26th instant, Mr. Solly, President, in the chair, the adjourned debate on Dr. Gull and Dr. Sutton's paper was resumed by

Dr. Daldy, who asked what was intended by acute rheumatism, and pointed out that many forms of disease are included under the term as commonly employed. There is the lithiasis, for which Dr. Warren the

elder said that six weeks was the best remedy. Were we asked to do nothing for this? Then there is a subacute rheumatism, which resembles remittent fever plus rheumatism, and tends to a natural termination in seven, fourteen, or twenty-one days. Some of the cases recorded by Dr. Gull, in the *Guy's Hospital Reports*, appeared to be of this character, and the natural duration of the disease would be in harmony with the results recorded.

Dr. Handfield Jones pointed out the great dissimilarity between different cases of acute rheumatism, and insisted upon the insufficiency of the phenomenal study of disease, unless it led on to something more. In rheumatism he knew only the phenomena, and treated them empirically. He thought that differences in the duration of the cases were partly due to differences in the recuperative power of patients. In cases where there was high fever and great formation of acid, acid sweat, acid mouth, acid urine, he thought alkalies were indicated, and he found them grateful and beneficial to the patients. Where there was not this tendency to acidity, he should not expect benefit from alkalies: and he had obtained good results by the use of quinine in large doses, twenty or thirty grains daily. Where there was much pain and swelling of the joints, blisters were useful; but not if there was much pain, with only slight swelling. Before attempting to arrive at results by statistical means, he thought we should determine whether what we call acute rheumatism was really one disease, in the sense in which scarlet fever or measles is a disease, or whether the term included several forms of morbid action.

Dr. Wynn Williams thought the discussion had wandered from the point, which was whether mint-water or medicine should be given to the patients. He took it for granted that every practitioner knew what was meant by acute rheumatism, and could distinguish it from subacute. He had himself suffered from acute rheumatism severely, and more than once. He had tried in his own case the do-nothing plan, and also the alkaline plan, and as the result of his own experience, he strongly advised the use of the latter. Much relief might often be given to painful joints by surrounding them with spongio-piline, soaked in a hot lotion containing subcarbonate of potash and laudanum.

Dr. Wilks thought it the duty of as many Fellows as possible to give their opinions upon the question. He was himself more or less in accord with the authors of the paper, both from his own experience and from the merits of the paper itself. After long experience, he still did not know what was the best remedy, and found that the actual cases are far from being uniform. He had used all the suggested remedies in turn, and had found them all nearly equally successful. It was quite time that such a paper should be read before the Society. He remembered a discussion four or five years ago on the same subject, in which every speaker advocated his own remedy, and in which, if a non-medical visitor had inquired whether the disease would get well of itself, no one present could have answered the question. The method pursued by the authors was the only legitimate mode of investigation, and men who did not follow it rushed blindly into the use, in all cases, of any much-vaunted medicine of the day, such as bromide of potassium, carbolic acid, or what not.

Dr. Billing had hoped that before the last speaker sat down he would have given his opinion about the utility of giving mint water—that is, of doing nothing—in acute rheumatism.

Dr. Sibson inquired whether the treatment of the authors was indeed doing nothing? He thought not. He maintained that it was doing what was both more desirable and more difficult than writing prescriptions upon paper. It was placing and maintaining the patient in the condition most favourable to recovery, and shielding him from every hurtful external influence. Nothing required so much care and skill as to do no harm; nothing was more worthy of remembrance than the Hippocratic maxim, "To do good, if possible, but not to do mischief." Was there not a common element in all the methods that had been discussed? and was not that element the warmth and rest of the hospital, as contrasted with the conditions of the patient's home? For two years past he had treated all cases of acute rheumatism at St. Mary's without internal drugs, but with much care. Many years ago he had seen a patient walk convalescent out of St. George's to return two days later with a fresh attack; and he thought that the difficulty of enforcing proper rest after pain had subsided was one of the chief causes of relapse. At St. Mary's the chief points were—1. Absolute rest in bed, insured by swathing the arms and legs in cotton wool, and by supporting the feet by pillows, so as to relieve the ligaments from their weight. 2. The removal of the pressure of the bedclothes by a cradle. 3. The removing of local pain by smearing the affected joints with belladonna liniment, sometimes strengthened by rubbing down the extract in it. He attached little importance to the mere duration of the cases, and all importance to the safety of the heart. He believed that the plan he had laid down, by causing the heart to be called upon for a minimum of exertion, did preserve it from risk in a very great degree. If the articular pain were very severe, with much redness and swelling, he would apply a few leeches; if without much redness, he would inject a little morphia under the skin. He objected, on principle, for himself, to the peppermint water, not approving of pretended medication. For the anæmia and weakness of convalescence he gave a little iron and quinine.

Dr. Billing rejoined that, although giving mint water was doing nothing, the plan they had just heard could not be so described. It was, however, not the work of a physician, but of a nurse. He was well assured that there was a better method of treating acute rheumatism than by the administration of mint water.

Dr. Anstie confessed himself to be without distinct belief in the efficacy of any treatment other than that described by Dr. Sibson. Still, the use of alkalies had not been scientifically condemned; and there appeared to be a good deal of evidence from experience in favour of them. Before giving them up as of no value, we ought to ascertain whether those who fail with them carry them far enough, and really produce alkalinity. In some hospitals, he knew, this matter was carefully tested; but he thought many failures were perhaps due to the treatment not being carried far enough. A friend, whose absence he regretted, and whose name, which in his absence he would refrain from mentioning, would be recognised as that of one of our best observers,

was in the habit of using alkalies in very large doses, and with marked success. The use of nitrate of potash was sometimes erroneously described as alkaline treatment; this salt being in no therapeutic sense an alkali, but a sedative of very peculiar character, and owing any efficacy it might have to its sedative properties alone. He deprecated leeching under any circumstances, and thought the hypodermic injection of morphia the best method of relieving pain.

Dr. Leared inquired whether there was any reason to believe in the actual presence of lactic acid in the blood of rheumatic patients, and whether the perspiration became alkaline under alkaline treatment?

Dr. Reginald Thompson said that, as Registrar of St. George's, he wished to state that exactly 100 cases of acute rheumatism had been admitted into the hospital during the years 1866–67. Of these cases, 48 were admitted with heart complication, 21 were attacked by heart complication while in the hospital, and 31 remained free. Twenty-three were cases of pericarditis, of which 6 in each year came on after the patients had been three days in hospital. Excluding these patients, whose stay was protracted, the average stay in hospital was 22 days in 1866, and 26 days in 1867. Alkalies were given in large doses, and the urine was always rendered alkaline. The average stay in hospital of the cases complicated with pericarditis was 46 days; and in the cases in which the date of the commencement of the attack could be accurately determined, it occurred in one case on the 9th day, in two on the 11th, in one on the 22nd, and in one on the 49th. The crisis of the disease was usually on the 7th, 8th, or 9th day.

Dr. Habershon observed that he thought the frequency of relapse bore some proportion to the depressing effects of previous treatment; and believed that he had seen morbid irritability and other bad symptoms in connexion with the use of very large doses of alkalies.

Dr. Dickinson wished to supplement his observations in the former debate by saying that, when Registrar of St. George's, he saw a large number of cases of acute rheumatism treated by different methods, and under the care of different physicians. Of 110 patients treated by different methods, among which might be mentioned bleeding, and the use of mercury, of guaiacum, and of iodide of potassium, 35 had endocarditis or pericarditis, coming on in the house after treatment was commenced. Of 47 patients treated by alkalies, there was only one in whom the commencement of heart disease was discovered after admission. This was a case of pericarditis. Alkalies should be used with discrimination and care, and only in the cases of acute acid rheumatism, which are precisely those in which the heart is most prone to be attacked. He believed that the alkaline treatment shortened the duration of acute rheumatism to some extent, but that its great value was in the protection it afforded to the heart. He would be glad to hear how the hearts had fared among Dr. Sibson's patients at St. Mary's.

Dr. Sibson had not then strict statistics upon the point; but was able to say that he had never before had so small a proportion of cases of heart disease. Without comparison with the statistics of other hospitals during the same period of time, it would be impossible to say how far this might be due to the treatment. He had been astonished to find how few patients went out with apex murmur.

After some remarks from Mr. Macilwain,

Dr. Sutton briefly replied. He said that Dr. Fuller had complained of the omission of the dates at which the patients left the hospital. The dates were wholly unimportant, because some patients had been kept in hospital to test the permanence of the cure; others until arrangements were made to send them to the country; others for other reasons. With regard to diagnosis, he admitted that it was not always easy to draw a line between rheumatic fever, acute rheumatism, and some cases of acute gout. He believed all the cases in the paper had been fairly named. Many of them were in young females; and certainly none of them were gonorrhœal rheumatism. Touching the date of the commencement of pericarditis, he called attention to the possibility of overlooking the very strictly localized creak, which sometimes exists for three or four days before being developed into a well-marked murmur.

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## Art. 13.—*The Treatment of Acute Rheumatism.*

(*British Medical Journal*, January 2 and 9.)

*Guy's Hospital.*—Dr. Wilks considers rheumatic fever one of the most difficult diseases for study, the principal questions for elucidation being its natural progress; the most usual time for heart-implication; whether any remedies will cut short the disease; and, if so, whether its curtailment prevents the cardiac affection. Dr. Wilks says that individual practitioners will answer such questions most positively, but the profession is by no means agreed about their solution. Although he entertains a doubt as to the best method of treatment, he can fully endorse the statements made by the enthusiastic supporters of each particular remedy. He has fully tried them all, and has seen patients rapidly recover under the use of lemon-juice with a diminution of the pulse; he has had several cases where the blister treatment has been followed by the most marked success; he has given salines in large doses, and with a speedy good result; and he has adopted the eliminative plan of wrapping the patient in a blanket with the most marked benefit. His difficulty is, not that these plans always fail, for they then might for ever be put aside, but that they appear eminently successful. This is the good side of the case; the other picture is, that they all sometimes fail; the patient lingers on week after week, sometimes with the articular affection alone, and sometimes with the chest-complication. He had endeavoured also, by the most careful analysis of symptoms, to discover the connexion between the time of the occurrence of the alkalinity of the urine and the abatement of the symptoms; but without success, although very often the doctrine usually taught that the symptoms depart when the urine becomes alkaline, is found to be true. It was owing to this uncertainty as to the best mode of treatment, that the physicians at Guy's determined to study the disease uncomplicated by remedies; for it was assuredly true that no one knew what course rheumatic fever might take if left alone, or at least no one was supposed to know. Dr. Wilks believes that the treatment almost universally adopted until quite lately was equivalent to the "do nothing" system;

that the few grains of saline three or four times a-day could have had no influence in checking the disease. The medical man was well satisfied with himself because the patient did not die, forgetting that rheumatism, with its complications, is rarely a fatal disease. If a patient with this disease took the usual saline, and then had endocarditis, pericarditis, and pleurisy, and, after weeks in bed, escaped with his life, friends, patient, and doctor congratulated one another on the favourable termination. The only correct view which can be taken would be that by a medical patient himself; he would consider that his case had ended well if he escaped without cardiac disease, and ended badly if he rose from his bed with an affection of the heart. He would say to his adviser, Cut the disease short if this will arrest its progress to my heart, but by all means let it run its course if by this means my heart will escape. Dr. Wilks thinks that it is by no means yet determined that absence of articular symptoms implies the less liability to cardiac disease, or that, after the administration of those remedies which are supposed to shorten the disease, the heart has more readily escaped. He has had lately two patients who were taking half a drachm of bicarbonate of potash every three hours, and very soon the urine became alkaline; after about two days the pains in the joints were lessened, but on the third day acute pericarditis appeared in both patients. In three other cases, now in the clinical ward, one is on quinine, another in blankets, and a third on the blister treatment; although the disease has been protracted, no cardiac affection has appeared in any of them. He thinks, however, that the two cases on the alkaline treatment were unusual, not on account of any antidotal influence excited by the medicine, but from the fact of the pericarditis occurring after the patient had been admitted. He thinks, that in most hospital cases the patient is never taken in until very ill, and then the cardiac inflammation already exists if about to occur at all; if not then present, it is not likely to happen under any treatment. He would not speak dogmatically on this subject, but believes it to be in the main true; and, if so, it is only in private cases, where the patient is seen early, that the definite action of the remedies can be discovered. He would also insist on a fact, too often overlooked, that, whilst lymph on a pericardial surface at once makes itself known by the *frottement*, an equivalent inflammation of the endocardial surface might present no altered sound, and it would be only by the gradual thickening which subsequently takes place, that the fact would be known. This was the case of a man who had acute pericarditis, and it was a question whether there was also an endocardial sound synchronous with the rub; when the latter passed off, however, no murmur referrible to the valves could be heard, nor at any subsequent period whilst the patient was in bed. After two or three weeks he was discharged; but before his leaving the stethoscope was placed over the heart, when a distinct systolic murmur was heard; this had been more than eight weeks developing.

Dr. Wilks considers that the main point for consideration is the discovery of that treatment which will bring the patient through without implication of the heart; that the profession has not yet arrived at this, is certain from the fact of the thousands who die annually of cardiac disease having its origin in rheumatism. If treating a private patient, and having sufficient faith in orthodox remedies until they can be super-

seded, he prescribes the saline of acetate and nitrate of potash with an opiate at night, occasional blisters to the joints to relieve pain, with flannel next to the skin, &c. Since these notes were written Dr. Wilks has published an interesting paper in the *Practitioner*, recommending the use of tincture of aconite, which he has found of marked benefit, given in frequently repeated small doses, in several cases of acute rheumatism.

*St. George's Hospital.*—The treatment of rheumatic fever adopted by Dr. Fuller is essentially alkaline, and consists not only in administering salines and small doses of alkalies, but in pushing alkalies as rapidly as possible to the point of producing alkalinity of the secretions. When a patient is admitted into the hospital, Dr. Fuller's first care is to determine that the disease under which he is suffering is really rheumatic fever; for Dr. Fuller maintains, and acts upon the belief, that cases of rheumatic gout in its acute stage simulate, and are often mistaken for, rheumatic fever. He asserts, indeed, that a want of discrimination as to the true nature of the disease is one of the causes of the failure which some persons experience in their treatment of so-called rheumatic fever by alkalies—true rheumatic fever yielding readily to these remedies, which exercise little control over acute rheumatic gout. The points of distinction on which Dr. Fuller mostly relies as indicating rheumatic gout are: 1, the complexion of the patient, which is seldom so pallid as in rheumatic fever: 2, the state of the skin, which is more inelastic and doughy than in rheumatic fever; 3, the existence of perspiration devoid of a strongly marked rheumatic odour; 4, tendency to swelling in the small joints of the hands; 5, the comparative absence of redness and coating of the tongue; 6, the absence of a copious deposit of lithates in the urine. When those conditions coexist, Dr. Fuller disregards the heat, pain, redness, and swelling of the joints, orders the patient out of bed, prescribes a cold shower-bath, and gives a generous diet, including meat and porter. At the same time, he administers bark and the mineral acids with cod-liver oil, or the mineral acids with tincture of iodine and cod-liver oil; or, if the urine be high-coloured, acid and somewhat turbid, quinine or strychnine dissolved in citric acid, and given in effervescence with a dose of the bicarbonate of potash or soda, the secretions being regulated by an occasional alterative or a dose of some mild aperient. When, on the other hand, the case is manifestly true rheumatic fever, the alkalies—whether potash or soda appears immaterial, and Dr. Fuller often combines the two—are given to the extent of two drachms every three or four hours until the urine is rendered alkaline. Dr. Fuller usually prescribes two ounces of the haustus ammoniæ acetatis of the Hospital Pharmacopœia with one drachm and a half of bicarbonate of soda and half a drachm of acetate of potash, and this he orders to be taken in a state of effervescence in combination with half a drachm of citric acid dissolved in two ounces of water. The quantity of the fluid not only takes off from the nauseous quality of the medicine, but promotes its absorption, and thereby facilitates its action. As soon as the urine manifests an alkaline reaction, the dose is repeated three times only in the twenty-four hours; and on the following day, if the urine still remain alkaline, twice only. After three days, two doses only of this mixture in twenty-four hours usually suffice to keep the urine

alkaline; and then Dr. Fuller adds two grains of quinine to each dose, or, if quinine be not well borne, he substitutes a mixture consisting of the haustus cinchonæ of the Hospital Pharmacopœia, with the addition of half a drachm of bicarbonate of soda and half a drachm of acetate of potash. Day by day, as the tongue cleans and the other symptoms subside, the quantity of alkali is cautiously diminished until a simple quinine draught is taken; but the condition of the urine is constantly watched with a view to the immediate administration of a small quantity of alkali, should the least acidity call for its use. The diet is another point on which Dr. Fuller lays particular stress; he insists that strict abstinence from solid food is of far more importance than in gout. He gives beef-tea or broth throughout, and, if stimulants appear to be needed, does not object to their being administered cautiously; but he withholds solid food until the tongue is quite clean, and has often proved to his class in the wards that a too early recourse to meat will induce a relapse, and prevent convalescence. Under this treatment, Dr. Fuller says, the pains commonly subside in five or six days, and the patients are seldom ten days in bed. Moreover, the heart may be regarded as safe from attack: for in two instances only, in the whole course of his hospital experience, has inflammation either of the endocardium or pericardium arisen after the patient has been twenty-four hours under treatment, and in one of these cases the alkalies had been imprudently abandoned under the belief that the patient was convalescent.

The treatment employed by Dr. Barclay is also alkaline. He follows out this plan after a long experience, believing that alkalies diminish the duration and the pain of the acute stage, and that by maintaining the alkalescence of the secretions the disease is less liable to become chronic. It prevents, almost invariably he believes, inflammation of the heart after the system has been fully brought under the influence of the alkali. Dr. Barclay also gives mercury to improve and correct the excretions, and opium in modified doses to afford when necessary desired rest.

*Edinburgh Royal Infirmary.*—In the clinical wards of this infirmary the following treatment is adopted by Dr. Laycock. The details have been carefully condensed from the note books by Dr. David Ferrier, clinical assistant to his ward. The patient is put to bed with flannel next the skin, in order to favour and absorb perspiration and prevent sudden chill. When there is great pain and sleeplessness, a full dose of Dover's powder is administered. If the skin be hot and dry, a hot vapour-bath is resorted to with advantage. In cases of biliary derangement and constipation, the patient is freely purged. Calomel is generally given. The principal treatment consists in the administration of carbonate or nitrate of potash in drachm doses, every three or four hours, which Dr. Laycock finds greatly to alleviate the suffering, and considers beneficial in promoting the elimination of irritating substances from the economy. The treatment is the usual diathetic treatment of rheumatic affections in whatever form they occur. When the rheumatic affection is of the bursal form, colchicum is combined with the alkaline remedies. Quinine is given in those cases characterized by great irritability and restlessness with marked benefit. Opiate, alkaline, or nitrate of potash epithems, are applied to the affected joints. Blisters are not generally employed, except in cases of long continued pain in particular joints.

In such cases they seem to produce marked relief in a short time. Lung complications, such as pleurisy, pneumonia, &c., are treated diathetically by alkalies and by the local application of opiate or alkaline epithems over, or a blister near, the seat of pain. If a heart affection be established, the treatment consists in giving a quarter of a grain of opium and a quarter of a grain of calomel in a pill every two or three hours. Heart affections are not so liable to come on when the treatment by alkalies and the wrapping-up in blankets has been adopted at the commencement of the disease. The cases of heart complications are chiefly those where the affection was established before admission into the hospital. In cases of head complications, with delirium, opium is given only in those characterized by muttering delirium; and is avoided if there be any signs of cerebral irritation or excitement. When convalescence is established, quinine, iron, bitter tonics, and good diet is the rule of treatment. The average duration of acute uncomplicated cases treated on Dr. Laycock's principles is three to four weeks.

*Leeds General Infirmary.*—Dr. Chadwick, after much experience and a vast variety of changes in the course of thirty years, now relies upon bicarbonate of potash, in twenty-grain doses, every four hours, and keeping the patient in blankets. The only difficulty he finds is some symptom or rule when to cease the administration of the remedy. The change from the sour perspiration and the alkaline condition of the urine may point to a less frequent administration, but does not warrant him in changing it altogether. Since he adopted the "sleeping in blankets," he believes he has had less endocardial and pericardial complication. His colleagues pursue a practice almost analogous.

*Netley Hospital.*—At Netley Hospital there are few admissions from acute rheumatism, most of the patients being men invalided from foreign stations. The disease is treated at Netley by Dr. MacLean chiefly by alkalies; bicarbonate of potash, in combination with nitre, being given in full doses until the urine is made alkaline, when the doses are diminished so as merely to maintain the alkaline conditions of the urine. Rest is obtained by sedatives, in combination with the wine of ipecacuanha. Joints that are particularly affected are enveloped in pads of lint soaked in a hot alkaline solution. If there be much pain, the hypodermic injection of morphia is resorted to. The plan of Dr. Chambers, of making the patients lie between blankets, is also invariably followed.

*St. Bartholomew's Hospital.*—Dr. Farre's ordinary mode of treating acute rheumatism is the "alkaline." He usually commences with three five-grain doses of calomel, followed by haustus sennæ; and repeats this daily till the evacuations are natural. At the same time, he gives the bicarbonate or acetate of potash, in twenty- or thirty-grain doses, every four or six hours, according to the severity of the attack, generally using the former, but preferring the latter when there is synovial effusion. When there is little or no perspiration, or when the heart is much excited, he adds ten or fifteen grains of nitrate of potash. He not unfrequently also gives one grain of opium every night. For local treatment, especially of the smaller joints, he relies chiefly on the tincture or liniment of iodine, using the tincture for women and children, the liniment for the robust; one or the other of these is used in almost every case, and

with nearly certain relief. When, however, there is synovial effusion, Dr. Farre uses either mustard or cantharides plaster. Mustard is always useful, especially when applied to the larger joints, as the shoulder. The appetite being always faulty, Dr. Farre gives milk diet until the tongue is clean, or cleaning. Meat given before it can be digested immediately brings back pain in the joints. He keeps the patient between blankets. As soon as the pain has gone, and the tongue is clean, he gives bitter tonics, omitting or diminishing the alkali if the urine is alkaline or neutral. If the tongue remains white after the pain has gone, he gives acids instead of alkalies with the bitter. Warm baths, he believes, are useful and refreshing when the patient can be moved without much pain. This treatment Dr. Farre has adopted, with little variation, for many years, and is very well satisfied with the result. The relief generally commences in forty-eight hours, often before. In some cases, however, the rheumatism shows a disposition to return. These he treats, as Dr. Nevins does, with quinine and iodide of potassium, and, in most cachectic cases, gives quinine early (as soon as the evacuations from the bowels are healthy), either with or without iodide of potassium. In the same cases, too, he gives cod liver oil. Iron he only uses when the patients, during convalescence, are pallid. His treatment, then, consists in calomel purges, bicarbonate or acetate of potash, tincture of iodine or blisters; blankets; milk diet till the pain subsides; then bitter tonics, with smaller doses of potash, or with iodide of potassium, or with acids.

*St. Thomas's Hospital.*—The plan of treatment adopted by Dr. Peacock, in cases of acute rheumatism, is chiefly the alkaline and eliminative methods, giving full doses of the bicarbonate of potash, with nitrate of potash, and, not unfrequently, iodide of potassium; and, in the latter cases, usually combining the remedy with small doses of colchicum. Latterly, he has employed blisters freely, in such cases as admitted of their use; and, provided several joints are affected, so that four, or five, or six blisters can be applied at the same time, the beneficial effect is most striking: the local symptoms are very markedly and rapidly relieved, the constitutional disturbance is lessened, and the disease cut short; so that cardiac symptoms are prevented, or arrested, if in process of development. He has not, except in very exceptional cases, relied wholly on the local treatment, but has added it to the constitutional measures which were previously in use, and the additional benefit gained is often most striking. It is applicable especially to the more intense cases of rheumatic fever; but is also very useful in those cases which are of such common occurrence, where the disease developes itself in persons previously most reduced in health, and more particularly in persons who have previously had the disease, and often with cardiac complication. In such cases, if the disease be not rapidly arrested, the cardiac symptoms are almost sure to be aggravated; and the surest means of effecting that arrest he believes to be the use of eliminative treatment and free blistering. Such persons, also, should not be reduced, if it can at all be avoided.

*King's College Hospital.*—The main points on which Dr. Johnson insists, are: that the patient should wear a large, loose, soft flannel dressing-gown, instead of a cotton shirt; this should be changed at least every other day. If the pains be severe, he gives moderate doses of

opium—half a grain or one grain, with two grains of quinine, three times a day. If the bowels be confined, a seidlitz powder may be given every morning. He generally gives moderate doses of alkalies—one scruple or half a drachm of bicarbonate of potash, with or without citric acid, every four or six hours. He is not satisfied that large doses of alkalies prevent cardiac complications; and he believes that they increase the tendency to rapid anæmia. In subacute cases, and in all cases where the skin does not act freely, he finds that hot-air baths are very useful. In cases of cardiac complication, especially pericarditis, with pain, he applies six leeches; then linseed poultices. He abstains from blisters and counter-irritation in the early stages of pericarditis. In cases of endocarditis, in order to lessen the tendency to deposit fibrine on the inflamed valves, he gives five-grain doses of sesquicarbonate of ammonia with the alkaline mixture.

*Middlesex Hospital.*—Dr. Goodfellow, from a long experience, has eventually arrived at the conclusion that large and frequently repeated doses of alkalies, chiefly the nitrate of potash, in doses twenty grains at a time, with smaller doses of other alkalies, are more effectual in cutting short the attack, and rendering the heart less liable to organic affection, than any other remedy. He, at the same time, applies cotton-wool to the præcordial region. If the joints be tense and painful, nitre poultices or wet compresses are applied; and, if they be less acutely affected, cotton-wool. He advocates flannel being worn to encourage perspiration. He strongly deprecates the practice of exposing the chest to the extent usually done, and percussing the præcordial region more than is absolutely necessary, as he believes that pericarditis may follow such a course, or, at least, existing attacks may be increased in severity.

*Westminster Hospital.*—Dr. Fincham has employed the treatment by blisters for some time, and he is satisfied that by this plan the relief produced is very great, and the duration of the malady shortened. He is in the habit, however, as a rule, of combining with it alkalies in full doses—*e.g.*, Pot. bicarb., ℈ij; pot. nitratis, gr. x; liq. amm. acet., ʒij; aquæ pur., ʒ x—every four hours; with a full opiate at night if the pain be very severe. He does not, however, think it advisable to continue the alkaline treatment for any lengthened period, but to give quinine, in doses of two or three grains, every six hours when the urgent symptoms begin to yield, especially if the sweating is over profuse. He believes that by giving quinine earlier than is generally the custom, convalescence is less tedious, and there is less chance of relapse. As regards cardiac complications, if pericarditis supervene, and there be sharp catching pain, he applies a few leeches, followed by linseed poultices; should the pain be slight or absent, he omits the leeches. In all cases he applies subsequently one or more blisters. As to medicine, he continues the alkalies, giving at the same time a grain of opium every four or six hours. Should endocarditis manifest itself, he contents himself with the alkaline treatment, as he cannot satisfy himself that local remedies have any effect.

In Dr. Basham's wards, typical cases of acute rheumatism—acute rheumatic fever—with inflammation of several joints, simultaneously or in succession—with or without cardiac complication, full, hard, bounding pulse, elevated temperature, loaded tongue, characteristic acid sweat,

scanty urine loaded with urates, thirst, and general febrile prostration, are treated chiefly with salines: either the nitrate of potash, largely diluted, and given as a drink, acidulated with a little lemon-juice, or with the bicarbonate of potash and carbonate of ammonia in a state of effervescence, with lemon-juice. When great restlessness and loss of sleep, caused by the local pain and swelling, prevail, Dover's powder and nitre, in equal proportions, are given at bed-time. For the relief of the local distress in the joints, gloves for the hands, caps for the knees, and socks for the feet, made of Markwick's spongio-piline, are moistened with a hot solution of nitrate of potash and applied, and the parts thus kept in a hot saline bath day and night. Dr. Basham rarely finds that the affected joint does not recover its mobility, and is free from all but stiffness, in twenty-four or thirty hours. To render the saline plan of treatment the more efficacious, Dr. Basham recommends that the state of the alvine secretions should, in the early stage, be ascertained, and if of the characteristic hard and offensive form, one or more brisk mercurial purges should be given to facilitate the action of the salines. As soon as the tongue cleans, and the urine becomes abundant and clear, he gives quinine or some preparation of cinchona bark and a mineral acid, with improved diet, to promote the convalescence. Cardiac complication, if not present on admission, Dr. Basham finds rarely manifests itself during this plan of treatment.

*German Hospital.*—The principal methods of treatment employed at this hospital during the last seventeen years have been the following:—1. Nitrate of potash, in doses of from two to six drachms per day; 2. Bicarbonate of soda, in doses of from two drachms to an ounce per day; 3. Acetate of potash, from two to six drachms per day; 4. Lemon-juice, from five to thirty ounces per day; 5. Quinine, from fifteen to forty grains per day; 6. Blisters above and below the affected joints; 7. Simple nursing. The greatest number of cases, however, has been treated by bicarbonate of soda. Opium and other narcotics have never been given systematically; but occasional doses, to procure rest, have not been excluded from any of the methods mentioned.

The duration of the disease, as far as Dr. Weber's notes go, has varied, from the commencement to the termination, from ten days to eleven weeks; and from admission into the hospital to the termination, from three days to eight weeks. The proportion of heart complications originating during the stay at the hospital did not exceed ten per cent.; and in many of these it appeared so soon after admission as to cause the impression that the act of removal, and the movements connected with it, were the cause of the complication. The average duration of the disease in the cases treated with soda is slightly less than the average of all cases observed; and the same is the case with quinine treatment, and with the blistering according to Dr. Davies' plan. In several of the cases treated by blisters, the urine became albuminous, and mixed with blood-globules; but in less than four days after the application of the last blister it was free from albumen; and in no instance was permanent albuminuria the consequence. Without entering into details, Dr. Weber mentions that his notes lead him to the inference that careful nursing, especially the keeping of the whole body, and of the affected joints in particular, as much as possible at rest, is by far the most important part

of the treatment in acute rheumatism; that, however, narcotic remedies are occasionally very valuable; that, further, the alkaline treatment is useful in those cases in which it reduces the excessive frequency of the pulse, and the more than usually increased temperature, in the course of a few days; but that it is of little service if it do not effect these changes within four or five days. He is unable to say before the trial which are the cases suitable for the alkaline plan. The quinine treatment seemed to be beneficial in those cases in which there were considerable exacerbations and remissions, and a certain degree of anæmia and pallor; and the blister treatment where the pain was accompanied by much swelling of the affected joints.

*Glasgow Royal Infirmary.*—The treatment in rheumatic fever, which Dr. Gairdner has usually followed, has been that by alkalies, and especially by acetate of potash, commonly aided by smaller doses of iodide of potassium, which last he began to employ systematically as part of the alkaline treatment since going to Glasgow, and much on the recommendation of Dr. Ritchie of that city, who was long in the habit of combining it with the acetate. The proportion he usually employs is one drachm of iodide to one ounce of acetate in one pint of water, with any syrupy excipient that may be preferred to give flavour and take off the bitter saline taste. Lately he has tried the blister practice of Dr. Herbert Davies, and, he thinks, with good success in some cases, certainly with manifest relief at the time. But he has not learned to trust entirely to this treatment, and has used it only along with the other. The joints are commonly wrapped in cotton wadding, whatever the treatment in other respects. In a few cases he has used considerable doses of quinine, in a few arsenic, in very many opium, either as a principal or as an accessory remedy, and often in pretty high doses.

*Queen's Hospital, Birmingham.*—At this hospital the number of cases treated is very large, and many are of great severity. The following treatment is that adopted by Dr. Fleming. The patient is placed between soft blankets, and carefully protected from cold draughts. A meal is given every four hours, consisting, during the fever, of milk and strong beef-tea alternately. The diet is cautiously improved during convalescence. One hour before each meal, this draught is administered: Potassæ bicarbonatis, gr. xxx; aquæ, ʒij. M. Add half an ounce of fresh lemon-juice, and take the mixture during effervescence. If there be high fever, from one to three minims of Fleming's tincture of aconite are added to each draught. If there be much pain in the muscles, in place of aconite, from five to ten minims of tincture of hemlock are added to each dose of the alkaline. If, on the other hand, the periosteum be affected, from two to six grains of the iodide of potassium are given. To relieve pain and secure sleep, Dr. Fleming orders at bedtime a full draught of morphia and Indian hemp; as a drink, potassa water or lemonade freely. If necessary, colocynth and hyoscyamus pill is given to relieve the bowels. Cotton wadding is applied to the affected joints. Active and repeated counter-irritation and poultices over the heart are employed in cardiac inflammations. During convalescence, warm clothing, full diet, with quinine and iron. After considerable experience, Dr. Fleming has found that this treatment has furnished very good results; and that the number of those attacked with cardiac

inflammation *after* their admission into the hospital is undoubtedly small. Placing the patient between blankets materially promotes perspiration, and prevents chill. In two recent cases where this plan was followed, sudamina appeared over the entire surface. The contents of the vesicles were ascertained by Dr. Sawyer, the resident physician, to be alkaline, not acid.

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## Art. 14.—*Tables Illustrating the Effects of Remedies upon Uncomplicated Acute Rheumatism.*

By W. H. Dickinson, M.D. Cantab., F.R.C.P., Senior Assistant Physician to St. George's Hospital, and to the Hospital for Sick Children.

(*The Lancet*, February 20.)

These tables furnished the basis of a paper in the forty-fifth volume of the *Medico-Chirurgical Transactions.* They supply the following facts:—161 cases of acute rheumatism, as yet without evidence of cardiac affection, were admitted. In thirty-six of these, heart complications arose while the patients were under treatment. These complications, though more frequent early than late in the disease, were found to have come on at all times during the first four weeks of the rheumatism. The cardiac disturbance was found in the first week of the disease in twelve cases; in the second in nine; in the third in five; in the fourth in three. In seven cases the date of the murmur was uncertain.

These statements, Dr. Dickinson states, cannot in strictness be looked upon as contributing to the "natural history" of rheumatism, for all the patients were subjected to therapeutical measures, and some to measures which, there is reason to believe, conferred such protection upon the heart as to reduce the proportion of cardiac affection.

A nearer approach to the natural proportion of cardiac disturbance would probably be obtained by excluding all the cases subjected to alkaline treatment. This would give 35 cases of heart affection coming on in hospital among 110 of rheumatism.

The chief object is to examine into the frequency of cardiac mischief in relation to different methods of treatment.

Of the 161 cases of rheumatism, 48 were subjected to the alkaline treatment—that is, to the daily administration of between half an ounce and an ounce and a half of the carbonates and vegetable salts of potash and soda. 3 cases were treated with salts of ammonia. 110 cases were treated by various means other than the full alkaline system, including bloodletting, mercury, nitre, guaiacum, opium, iodide of potassium, quinine, and such small doses of the alkaline salts as are described as "partial" or come under the designation of salines.

Among the 48 patients under alkalies one case of heart affection was recorded: among the 3 under ammonia, none; among the 110 under treatment other than alkaline were recorded 35.

Thus the alkaline treatment gave a proportion of heart disease of 1 in 48; non-alkaline treatment a proportion of heart disease of more

than 1 in 4. The number of cases is large enough to afford a weighty deduction.

It is, of course, not unlikely, as the notes which the tables represent were taken for the most part in the ordinary course of hospital work, that a slight or transient murmur may now and then have been overlooked; but this source of error must have affected alike all modes of treatment. With the evidence before us it is not possible to question that, as compared with the other methods in use at the same time, the alkaline system gave a much smaller proportion of cardiac disease.

Under alkalies the duration of the disease was shorter than under most other plans, a point, however, of little importance as compared with the safety of the heart.

It is not necessary to consider other remedies; venesection and mercury are practically abandoned in acute rheumatism. Next to the alkalies, nitre appears to give the best results. With regard to the other drugs which are represented in the table, we can trace no advantage from their administration, and need not too precisely inquire whether they are mischievous or merely useless.

With regard to Dr. Davies's blistering system—a method of treatment of which the tables give no example,—from clinical evidence as well as the theoretical probability of the withdrawal, by this means, of a rheumatic poison, we may believe it to be attended with advantage. On the other hand, it is inconvenient to the patient, and probably does not protect the heart to the same extent as can be claimed for alkaline medicines.

It does not seem, the author writes, that any method of treatment which has yet been invented is able entirely to do away with the tendency which acute rheumatism has to affect the lining and covering membranes of the heart. Of late years, alkalies in some form have been almost invariably used at St. George's in cases of this disease; thus a much larger number of cases have every year been subjected to this treatment than was formerly the case. Dr. Reginald Thompson, the present medical registrar, has collected a considerable number of cases both of endocarditis and pericarditis, under alkalies; but it is not necessary to dwell upon this fact, since, as no other method of treatment has been employed to any extent during the same period, we have no means of comparing these cases with others under different circumstances. Though it must be allowed that heart complications occur occasionally under alkalies, the conclusion may fairly be drawn that, as compared with other modes of treatment, alkalies give the best results.

It may not be out of place to refer to the experience of Dr. Fuller, who was the early, and has been the persistent, advocate of the alkaline treatment. He states that among 168 cases of acute rheumatism, the heart became involved, subsequent to the commencement of the treatment, in only five.

Whether alkalies give better results than mint-water, or what is called expectancy, is a question to which the details Dr. Dickinson has given supply no answer. A few words of practical suggestion, the author adds, may form a not unwelcome conclusion.

In order to obtain the best results from the alkaline treatment of rheumatism, it is necessary that it should be regulated with a watchful care. In the beginning of the disease, when there is rapid production

of acid, the alkalies should be given freely, and, above all, frequently. Taking the urine as a guide, it should be made alkaline as soon as possible, and kept so with no intervals of acidity. To do this, the salts must be given at first in considerable doses, and at short intervals; three or four scruples every two or three hours, as ordinary treatment for an adult. As the disease progresses, and the acid tendencies of the patient diminish, it is necessary to lessen the strength and the frequency of the medicine in a gradual manner, with continual reference to the urine, guarding against excess of alkali towards the end of the disease as carefully as against deficiency at the beginning.

It appears to matter little whether potass or soda, vegetable salts or carbonates, are used. Citrate of potass may be given alone, or with acetate or bicarbonate. Nitre and acetate of ammonia are, at St. George's, not unfrequently used as adjuncts. The form of prescription may be safely varied according to the circumstances of each case and the fancy of the practitioner. Perhaps a simple solution of citrate of potass in water is as effective and as little objectionable as anything. This salt, or its equivalent, may be given in the general quantity of about an ounce in the twenty-four hours; rather more at the beginning of the disease, less towards the close. In most cases quinine or bark may with advantage be added as the active symptoms wane.

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## Art. 15.—*Opinions of Irish Physicians on the Treatment of Acute Rheumatism.*

(*Dublin Quarterly Journal of Medical Science*, May.)

Subjoined are the opinions of a number of the principal hospital physicians of Ireland, with regard to the treatment of rheumatic fever :—

The remedial agents Dr. John Banks generally employs are, alkalies, opium, blisters, and quinine. He believes it to be impossible to lay down rules applicable to all cases; but with the results of this complex treatment he has reason to be satisfied. The value of quinine in obstinate and frequently relapsing cases of rheumatic fever is not, he thinks, sufficiently recognised. Without claiming for any remedy, or any combination of remedies, the power of preventing with certainty the advent of complications, he is nevertheless impressed with the belief that treatment judiciously directed so as to meet the exigencies of each individual case, has the effect of shortening the disease and diminishing the proclivity to cardiac inflammation.

Dr. Thomas E. Beatty, ex-President King and Queen's College of Physicians, says, the most rapid recoveries he has seen in young persons have been from the free use of lemon-juice, from one to two ounces of which were given every third or fourth hour.

Dr. Charles Benson has no hesitation in stating his conviction that treatment *does* influence favourably the duration of the disease, and lessen the per-centage of hearts damaged.

The treatment which he generally prefers is " the alkaline ;" giving the bicarbonate of potass, for the most part with lemon juice in effervescence, sometimes with decoction of cinchona, or with calumba, ac-

cording as may best suit the stomach, or condition of the patient in other respects. He usually combines colchicum and digitalis with these, giving, in twenty-four hours, from 30 to 60 minims of each, and at bed-time an opiate. Dr. Benson's favourite opiate is Dover's Powder—10 or 15 grains at night, and, if there be much suffering, 5 grains three or four time a day in addition. He thinks the colchicum helps to eliminate the *materies morbi* from the system, and he fancies the digitalis promotes the same object, while by its sedative influence it lessens the danger of cardiac complication. He does not prescribe the bicarbonate of potass in such large quantities as Dr. Fuller recommends. It is too lowering for the citizens of Dublin. He seldom uses more than 4 drachms in the day. Sometimes he gives a little iodide of potassium also, and when the patient is scrofulous or tainted with syphilis, this appears to be useful. In delicate or scrofulous subjects he gives cod-liver oil freely, and the iodide of iron or some other chalybeate. Dr. Benson regulates the bowels with injections of soapsuds, to which he adds a little soda or potass to follow up the alkaline plan, without too much distressing the stomach. When a joint is particularly painful he puts on poultices of linseed-meal, containing some potash or soda, and when effusion takes place into a joint he often has recourse to a blister. The jerking pulse and impulse which precede the murmur of endocarditis for twelve or twenty-four hours, suggested to Dr. Benson the employment of digitalis. When the heart is threatened, which may always be known by the jerking pulse and impulse, Dr. Benson applies blisters to some of the joints, and just below the left nipple—pushing the opiates and digitalis remedies still further.

Sir D. J. Corrigan, Bart., M.D., does not see why opiate treatment is to exclude blisters, &c., or *vice versa*.

Dr. John T. Drennan, M.D., writes :—Blankets and cotton wadding as external application; moderate purgation, followed by the administration of the salts of potash (the bicarbonate and nitrate and the iodide of potassium), with opiates, or occasionally colchicum. Bark or quinine when the fever subsides, and the tongue becomes clean.

Dr. Henry Freke is strongly of opinion that although we can mitigate symptoms, we at present know of no means whereby we can cut short the disease, or with any approach to certainty reduce its duration. That there is no constancy to be recognised in the duration of the disease, but that either with or without treatment it *may* terminate in a fortnight or *may* last for two months. That if two patients in apparently similar circumstances, and presenting in every respect similar symptoms, be placed on the same line of treatment, one will occasionally recover in the course of twelve or fourteen days, while in the other the disease will frequently have a duration of seven or eight weeks, and that *whatever* be the line of treatment adopted.

Dr. Samuel Gordon has no doubt but that the alkaline and diaphoretic plan of treatment is of essential service in shortening the duration of rheumatic fever, and in lessening the probability of cardiac diseases. Even unaided, when carefully carried out it is of great value, but he attaches much importance to the constitution of the patient affected, and to the fact of it being a primary attack or otherwise. The preparation which Dr. Gordon generally uses is the combination of bicarbo-

nate and citrate of potass—that is, he gives very large doses of bicarbonate of potass in effervescence with lemon-juice—giving a large excess of the bicarbonate.

If the patient be of a strong constitution and the attack a primary one, Dr. Gordon usually adds small doses of tartarized antimony with great advantage. He thinks that when the depressing effect of antimony on the heart can be produced without vomiting, it proves most serviceable in averting cardiac complications. This was the plan of treatment usually adopted by the late Dr. Crampton, after he had given up the practice of venesection, and it was followed by great success. The use of opium Dr. Gordon considers to be indicated in those cases in which the fibrous structures are much engaged, and when not contra-indicated he always prescribes it in the form of Dover's powder; but he never uses the opium without having first tried the alkaline and diaphoretic plan for at least 24 hours.

In asthenic constitutions or when the attack is not primary, Dr. Gordon finds great advantage from the addition of large doses of the iodide of potassium, combined in this as in all other cases in which he uses it, with small doses of aromatic spirit of ammonia.

When there is much local distress he applies the vesicating collodion freely, and afterwards a warm solution of the bicarbonate of potass covered with French wadding and sheet gutta-percha.

With regard to the occurrence of endocarditis as indicated by endocardial murmur, Dr. Gordon has long taught that the sign is most fallacious; the most severe and most intractable cases of endocarditis which he has witnessed have been unaccompanied by any murmur (*vide Dublin Hospital Gazette*, April 1, 1857), and on the contrary he is satisfied that on account of the existence of an endocardial murmur, numbers of cases are recorded as endocarditis in which no inflammatory exudation has occurred.

Dr. Hayden has given full trial to the alkaline treatment. His experience of it is, on the whole, favourable. It never fails to alleviate articular pain when pushed to the extent of rendering the urine alkaline in reaction. It should always, when not contra-indicated by other considerations, be pressed to this point, short of which it fails to give relief.

Dr. Hayden is convinced, however, that the alkaline treatment, carried even to the point just indicated, does not confer certain immunity from cardiac complication.

Dr. Henry H. Head is convinced that every case of rheumatic fever should be treated strictly in accordance with the rules laid down by those who have adopted the "blanketing" system, and that the medical treatment, properly so called, should be added to it.

The result of Dr. Head's observation has been decidedly in favour of treatment by alkalies and their salts, in combination with the vegetable acids, in cases where the symptoms are very acute, characterized by quick, hard pulse, high temperature, and acid secretions, and where the constitution of the patient has been hitherto good; and he thinks he can assert, with perfect confidence, that where this course has been pursued, in combination with careful protection, cardiac complications have been extremely rare in cases where there was undoubted evidence that such lesion did not previously exist.

In the case of patients who have suffered from repeated attacks of rheumatism, when the character of the fever is low, or the constitution previously bad, the alkaline treatment (if adopted at all) should be carried out with great caution, and should be combined or very soon followed by the use of quinine or bark. Where the joints affected are numerous and the pain is very acute, Dr. Head has found very great relief afforded by the blistering method suggested by Dr. Herbert Davies; but although the alleviation of suffering is considerable, he does not consider that this treatment shortens the duration of the attack.

Dr. Alfred Hudson's impression is that the early and free exhibition of the alkalies or their neutral salts is prophylactic of cardiac affections. He even believes that they are the best curative measure which can be employed when endocarditis has actually supervened. In several instances he has known an endocardial murmur which, commencing at an early period, had persisted throughout the illness, to disappear gradually under the influence of large doses of the neutral salts, more especially of the acetate and nitrate of potash.

Dr. John Hughes's treatment has invariably been the quino-alkaline, with blisters to the joints to relieve pain, and a fair amount of nutritious diet; very rarely stimulants—opium combined with the mixture in small doses, or as a sedative at night to procure sleep.

Dr. Henry Kennedy for some years past has had the greatest confidence in what is known as the alkaline treament laid down by Drs. Garrod and Fuller for acute rheumatic fever. Whilst, however, he speaks in favour of the alkaline treatment, he does not limit himself entirely to it. In by far the majority of cases the disease is attended by very severe suffering. Hence Dr. Kennedy has been in the habit of joining the anodyne to the alkaline treatment, and, he believes, with the best results.

Dr. Robert Law's treatment consists in a moderate venesection, almost never exceeding eight ounces, and seldom requiring to be repeated; and in the exhibition of colchicum, either in the form of the tincture or the wine of the seeds, of which preparation he does not exceed a drachm in a six-ounce mixture, or the acetous extract in grain doses three or four times daily. When he considers it necessary to exhibit an aperient, which he avoids as much as possible in such cases, from the pain of the motion consequent upon the operation of the medicine, he directs the following mixture:—Tincture of the seeds of colchicum, one drachm; tincture of senna, half an ounce; sulphate of magnesia, six drachms; peppermint water to six ounces. He has found considerable advantage and ease to the patient from combining opium largely with the colchicum. Dr. Law constantly directs a drachm of the tincture of the seeds of colchicum, and a drachm of liquor opii sedativus, in a six-ounce mixture; or a grain of the acetous extract of colchicum and a grain of the watery extract of opium in a pill, three times, or oftener, in the day. The local application to the inflamed joints which Dr. Law has employed with most advantage is the tincture of iodine, and especially where there is effusion into the joints, which, in most cases, disappears speedily under its use. Dr. Law has generally observed, where the pericardium or endocardium is about to be affected,

there is, in general, previously an excited action of the organ, in which case he adds digitalis either to the mixture or pill. And when an attrition murmur, or a valvular abnormal sound, indicates pericarditis or endocarditis, he then combines mercury with the other medicines in the following formula:—Acetous extract of colchicum, four grains; calomel, three grains; watery extract of opium, two grains; powdered digitalis, one grain. To be made into four pills; one to be taken every third hour. He also directs a blister to be applied to the precordial region, and the blistered surface to be dressed with mercurial ointment, in order to bring the system speedily under the influence of this medicine—convinced as he is of its power to effect the absorption of the effused lymph, whether deposited on the pericardium, or on the surface, or in the substance, whether superficially or interstitially in the valves. This is the stage of the disease when medicine can alone cure it. When the acute symptoms have passed away, and all fever gone, Dr. Law prescribes bark and hydriodate of potash, or quinine; and when stiffness of joints alone remains, warm baths. As long as the disease retains any of its acute character, so long will no benefit be derived from the warm bath; but so far from it the patient generally complains that his pains had been much worse.

Dr. Robert D. Lyons has adopted for some five years past a settled mode of treatment of rheumatic fever, the details and principles of which may be thus briefly summarized:—

The patient is placed in a flannel jacket, and between blankets, the sheets being removed from his bed. The joints affected are assiduously poulticed with a mash of camomile flowers and poppy heads, reduced to a soft state by being simmered for from one to two hours. These poultices are removed and replaced by fresh ones at intervals of three or four hours, and thus this soothing application is kept up "hot and hot," so long as pain and swelling continue to be complained of; and so marked and immediate is the relief thus afforded that the patients will be found frequently to ask urgently for a fresh poultice to a joint which is becoming affected. To procure sleep, and to ease and tranquillize the patient in this very painful malady, from one quarter to half a grain, or even a grain dose of opium is given every third, fourth, or sixth hour, according to the age of the patient, and the distress and urgency of the symptoms. The following alkaline mixture is next prescribed, the proportions and the vehicle of exhibition for which are altered according to the state of the patient's stomach. In eight ounces of the infusion of gentian, cascarilla, or any of the light bitters, half an ounce of the bicarbonate, two drachms of the acetate, and two drachms of the nitrate of potash, are ordered, with half an ounce of any ordinary flavouring syrup. Of this mixture one tablespoonful is administered every third hour, except when the patient is asleep. The diet is restricted to milk and any simple farinaceous food; and for drink, soda or kali water, or lithia waters in effervescence are allowed *ad libitum*.

Dr. Lyons' standing orders to the clinical clerks are to examine and record the state of the heart and its membranes on the patient's admission. When, should cardiac complication exist, or should it be subsequently developed, *which rarely happens* when this plan of treatment

has been put in operation sufficiently early, relays of leeches and poultices are placed over the heart; but mercury is not now exhibited in Dr. Lyons' practice, except in the most rare and exceptional instances. When as occasionally, though in his experience but very uncommonly, it may happen that through squeamishness of stomach the alkaline mixture just described is not well borne, Dr. Lyons has recourse to the salts of lithia, given in distilled water with a little of the syrup of orange flowers.

The bowels are regulated by enemata, or a mild rhubarb aperient, with magnesia usta; but under no circumstances is the patient allowed to get out of bed, and he is at all times supplied with a urinal.

Tepid sponging, and the frequent use of dry warm (Turkish) towels are found to give great relief when the sweat is excessive. It has not been found necessary, in Dr. Lyons' experience, to leech or blister the joints, and to this latter procedure he avows an open and uncompromising hostility.

For this plan of treatment, as above detailed, and which has been pursued more persistently by Dr. Lyons than perhaps by any other of our Irish hospital physicians, he claims no originality whatever, but he avers the following conclusions in its favour :—

1. It gives immediate ease, by the local application, and the internal employment of narcotics. The patient thus passes with a minimum of suffering through an otherwise extremely painful disease, and often after the first day or two the patient complains of absolutely no pain or distress whatever.

2. The local application of heat, moisture, and narcotics relaxes the fibrous textures invaded by the *materies morbi*, urate of soda, or whatever other pathological product it may be, while the said *materies morbi* is not repelled from external parts, where, though the cause of pain, it is rarely if ever capable of producing ultimate serious organic mischief, as it will surely tend to do, if driven upon internal organs.

3. The alkali thrown liberally into the system affords, when circulated in the blood, a ready solvent for the urate, while the action of the nitrate and the acetate of potash promotes free elimination through the safest channel of exit from the body, that of the urinal excretion

4. This plan of treatment, when fully and carefully carried out, diminishes the duration of the disease, and, in Dr. Lyons' opinion, lessens in a very high degree the liability to cardiac complication. So much is this the case, that in but an exceedingly rare number of instances has it happened that a patient admitted without cardiac complication has developed it subsequently in Dr. Lyons' clinique. Furthermore, his experience has shown him that in instances in which cardiac murmur was present on admission of the patient, the persistent employment of the alkaline plan with the adjuncts above detailed has had the result of removing the cause of the murmur, possibly in such instances constituted by limited deposits on valves not otherwise damaged.

With the experience of five years in hospital and in private cases, and with, as he avers, the happiest results as to diminution of suffering, shortening of the duration of the malady, an undeniable lessening of the tendency to cardiac complication, Dr. Lyons avows himself a

warm advocate of the alkaline and narcotic plan of treatment above detailed. His results of treatment have before now been brought to the notice of the profession, and have been witnessed by many visitors to his clinique.

Dr. William Moore is an advocate for the alkaline treatment, and after having given those in use, individually, repeated trials, he is disposed to place most reliance on the acetate or bicarbonate of potash, especially the latter, in doses varying from half a drachm to one drachm every fourth hour; having first relieved the chylopoietic viscera by a mercurial purgative. He has found this treatment, combined with an opiate at bed time, *fluid* diet, and keeping up a general high temperature, particularly over the affected joints (which is best done by wrapping them in raw cotton covered with oiled silk), very satisfactory.

Dr. Moore states that although not armed with statistics, his experience leads him to conclude that where the above treatment is steadily carried out, not only is the duration of the disease shortened, but endo- and pericardial complications are of less frequent occurrence.

Professor William Stokes has long disbelieved in the efficacy of any of the proposed specific treatments for acute rheumatism or rheumatic fever, including mercury, opium in large doses, bark, colchicum, alkalies, and acids. The disease, like continued fever, will run its course, and the principles of treatment are the same in both cases. We are to support the strength and alleviate pain, and employ tonics in the advanced stages.

Some of the most protracted convalescences Prof. Stokes has ever seen were in cases in which, as was the practice long ago, the patients were, at an early period, brought under the influence of mercury.

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## SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

### (A) CONCERNING THE NERVOUS SYSTEM.

### ART. 16.—*On Headaches.*

(*Medical Times and Gazette*, March 27.)

Dr. Martineau has lately published an admirable monograph* on this subject, which is well worthy of careful study, for there are few symptoms which give the practitioner more trouble, both in a diagnostic and therapeutic point of view, than some of the anomalous forms of headache.

Headache may be general, extending over the whole of the cranial region, or it may be partial and circumscribed, and affect either a lateral half, when it is known as hemicrania, or a definite region, as the frontal or occipital, or it may be confined to a very limited spot, as the top of the head in certain cases of hysteria. The pain varies in inten-

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* Article "Céphalalgie," in the *Nouveau Dictionnaire de Médecine et de Chirurgie*, tome vi. Paris: Baillière. London: Baillière, and Williams and Norgate.

sity, and may be slight or violent, acute or dull. The pictures of their sufferings, as drawn by the patients themselves, are most varied. Some complain of a sensation of heat, tension, constriction, formication, pricking, and lancing, while others describe a sensation of tearing of the structures and of violent pulsations. Some complain that they feel as if the head were bursting, or as if it were being struck by a hammer, or as if it were compressed by a heavy weight, while others complain that the head feels light and vacuous. In some cases the scalp is so sensitive that even touching the hair excites pain. The functions of hearing and sight may be affected, and the patient may complain of abnormal sounds in the ears and various disturbances of vision, and in some cases the cutaneous sensibility of the face is affected. With these cerebral phenomena are associated certain symptoms presented by other organs, especially the stomach.

The duration of headache is as variable as is its intensity or seat. It may be ephemeral or permanent, lasting only a few hours or continuing for months or even years. In the latter case the pain is commonly due to a morbid diathesis, or to a gouty tendency, or a syphilitic taint. If the pains are due to syphilis, we may often get a diagnostic hint by observing the exacerbations which they undergo when the patient retires to bed. An illustrative case lately occurred in the wards of Professor Nélaton. A young washerwoman, suffering from syphilitic nodes, was frequently obliged to carry on her business throughout the whole night; and on these occasions there was no exacerbation of the headache from which she constantly suffered. But if she attempted to lie down during the day, the pain in a few seconds became so intolerable as to render sleep impossible. Indeed, whenever she attempted to lie down, the pain became so agonizing as to compel her to rise. Iodide of potassium in small doses soon effected a radical cure.

After noticing the various classifications of headache, based upon its causes, that have been proposed by various authors, Dr. Martineau divides them into (*a*) cephalalgia dependent on a lesion of the skin, or of the muscles and fibrous tissue, or of the bones of the head; (*b*) cephalalgia due to a lesion of the nervous centres; and (*c*) cephalalgia of a sympathetic or reflex origin.

The pains in the head experienced in erysipelas, rheumatism of the scalp, and secondary or tertiary syphilis, are examples of the first division. The headaches accompanying acute meningitis, the tubercular meningitis of children, cerebral softening, cerebral congestion, affections of the cerebellum, scarlatina, Bright's disease, &c., belong to the second division; while under the third division the author places the headaches that occur in the various forms of fever, in disordered conditions of the stomach and intestinal canal, diseases of the respiratory system (as pneumonia, febrile catarrh, influenza, acute bronchitis, &c.), in gout, in uterine affections, epilepsy, blood-poisoning, &c.

We must always carefully distinguish between a headache that comes on almost instantaneously in a healthy man and a headache attacking a person who is already an invalid. Our diagnosis and prognosis in these cases are very different. For example, if a man is suddenly attacked with intense headache, under special conditions of climate and season, in certain countries (especially in northern countries), the headache

almost certainly indicates a malarial poisoning, while in hot southern countries such a headache would have a very different signification, and would point to abdominal and probably hepatic disorder, and would probably be the precursor of yellow fever. In the first case, the physician would at once have recourse to sulphate of quinine, while in the second the headache would give no special hint as to treatment. Remedies must, as a general rule, be addressed not directly to the headache itself, but to the seat of the disease which excites it. In the headaches accompanying a syphilitic taint, nothing is so serviceable as pills of iodide of iron (each containing a grain and a half), of which four should be given the first day, and the number should be increased by two daily. The headache usually disappears under this treatment in a few days. Headaches of a rheumatic nature, and sometimes even those that are symptomatic of cerebral disorder, are often much relieved by the local application of bags containing hot sand. This mode of treatment is much used by Trousseau. Lastly, in some very rebellious and obstinate cases, the application of a compress saturated with a solution of cyanide of potassium (1 part to 100 of water) has been found to be of signal service.

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## Art. 17.—*Narcotic Snuffs in Headache and Facial Neuralgia.*

By Dr. Raimbert.

(*Wien. Medizinisch. Jahrbücher*, 1, 1869, and *The Practitioner*, March.)

Dr. Raimbert, who has already obtained a certain amount of success with morphia used in this way, now recommends it further in conditions of nervous excitability which commence with sleeplessness, and are followed by severe headache. One and a quarter grains of morphia is mixed with about sixteen grains of gum-arabic powder; or for children, about half the quantity of morphia. Of this powder from two to four pinches are to be taken, within half an hour or an hour, into each nostril. This is to be repeated two or three times daily.

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## Art. 18.—*A Case of Stomachal Vertigo subsiding under treatment.*

Under the care of Dr. Buzzard, of the National Hospital for the Paralysed and Epileptic.

(*British Medical Journal*, December 19.)

In the third volume of his *Clinique Médicale*, Trousseau has described, with his usual graphic power, a functional disorder to which he gives the name "*Vertigo à stomacho læso*" or "*vertige stomacal.*" Transient giddiness associated with faulty digestion is of every-day experience, but we do not often meet with an instance of such severity as the following, which bore a strong resemblance to the case upon which Trousseau founds his lecture.

The patient, James B., aged forty-eight, was a farm-labourer, a big heavy man, of anæmic aspect, with a face seared by innumerable wrinkles. His hair and beard were grey, and his appearance altogether that of a man several years older than his asserted age. His complaint was of "giddiness in the head," of which he had suffered attacks for a twelvemonth past. About every ten days or oftener he would get an attack, which he thus described. His stomach would first appear to be filled with wind; then there was noise in his ears, especially the left ear, a noise sometimes as of ringing of bells or of a railway train upon the line. This was immediately followed by giddiness, so great that he could not stand without holding on to some support. Sometimes, but not always, there were little twinkling lights before his eyes. If he lay down on his back the room would appear to be swaying and whirling over him, and the only relief he could obtain was by lying on his face. An attack would last from half an hour to two or three hours, during which time he could do nothing. After that he could resume work, but felt queer, dull, and heavy about the head for two or three days afterwards. He never lost his senses during the attack. He sometimes retched but never vomited. The attacks had been more and more frequent of late. In his earlier attacks he used to feel numbness in both thighs, and broke out in cold sweats. He fancied that tea and pork were both liable to bring on an attack. His general health had been very good with the exception of indigestion, from which he had long suffered. At twelve years of age he had acute rheumatism. He had never had gout.

On examination, his pulse was found good and regular, the area of cardiac dulness not increased, the apex beat in its normal situation, and there was no *bruit*. Other organs were also, as far as could be determined, healthy, and he showed no thickening of arteries. Urine, free from albumen, containing abundant lithates. On January 21st, the day of his application, Dr. Buzzard ordered him a grain of iodide of potassium, five grains of bromide of potassium, and ten grains of bicarbonate of potash, twice a day, to be taken during meals. Under this treatment the attacks immediately diminished in frequency and duration. He continued taking this medicine till March 17th, when half a drachm of tincture of calumba was added to each dose. On April 7th, it is noted "He is a great deal better. He occasionally gets a mistiness before the eyes, but has had no attack of giddiness for five weeks." On May 19th, the experiment was made of discontinuing the alkali and bitter and giving him five minims of the solution of pernitrate of iron, three times daily. This did not answer; giddiness returned, and one grain of the iodide with five grains of bicarbonate of potash with a grain of tartarated iron was ordered twice daily. He continued to take this pretty regularly until Sept. 8th, when he felt well enough to do without assistance. He had then had no attack of giddiness for twelve weeks.

Dr. Buzzard remarked upon the importance of a correct diagnosis in such a case as this, especially in private practice, where such excessive vertigo would be apt to be regarded by the patient and his friends as premonitory of some very serious head affection. The symptoms in this case were more than ordinarily severe, but, especially among professional

men with much mental labour, it was not at all uncommon to meet with instances where less marked vertigo caused great distress and alarm. He had, indeed, lately treated a gentleman to whose temples leeches had been formerly applied for a vertigo which immediately depended, he had no doubt, as this man's did, upon imperfect digestion. They had made him much worse. It was amongst anxious persons, engaged in onerous business, that imperfect assimilation leading to such a symptom was peculiarly apt to occur, and for this reason, the affection was one which it was more common to meet with in private practice than amongst hospital patients. Whilst recognising the influence of the stomach in causing these attacks, he believed that there was always a faulty condition of the nervous system which conduced to them—a condition, he thought, closely allied to the epileptic. In the case under consideration there was very evident anæmia; and, whilst he gave alkalies to correct any acid (ascribable probably to acetic or butyric fermentation of food rather than to excess of gastric juice), he was careful also not to neglect the improvement of the man's blood by the use of steel. The iron at first ordered was given doubtless neither in the proper form nor dose, and it probably added to the difficulty of the stomach; the minute dose of a very mild preparation, the tartarated iron, answered well the intended purpose. As evidence of the probable morbid condition of the nervous system in such cases, he mentioned that he had seen patients in whom vertigo of precisely similar character was apt to be produced sometimes by faulty digestion, at others, through the medium of one or other of the special senses. Amongst such he instanced reading as liable, sometimes, to produce an attack; the rapid change of accommodation in the eye, caused by drawing distant objects; or gazing at moving bodies of troops. Occasionally too, in persons so predisposed, shooting became an almost impracticable pastime owing to the vertigo induced by the noise of the discharge.

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## Art. 19.—*On Nervous Dyspepsia.*

By Arthur Julius Pollock, M.D., Assistant-Physician to Charing Cross Hospital.

(*The Lancet*, February 27.)

The following are the symptoms of nervous dyspepsia:—The patient will complain of pain in the chest or "heart," which goes right through to her shoulders, and is often so bad that she can scarcely breathe. It comes on in spasms, and is often accompanied by palpitation of the heart, giving rise to a fear that that organ is affected. These pains usually occur after food or drink, and sometimes even a cup of tea will bring them on There will often be a good deal of wind in the stomach and bowels, which latter are generally constipated. The urine is high-coloured and scanty, or thick, the tongue coated as a rule with a yellowish fur, though it will not unfrequently be found quite clean or unnaturally red. She is sick at times, occasionally bringing up her food, but often nothing but water. The appetite is bad, the breath foul, and

there is an unpleasant taste in the mouth, especially on waking in the morning.

The nervous symptoms are very various: great lowness of spirits and depression; anxiety without any cause; an undefined dread of some impending evil; hot flushes and chills; the noise of her children distracts her; she cannot walk out in the streets, as the air feels "too strong" for her, and the number of people makes her very nervous; there is frequently headache, generally referred to the vertex, which she describes as feeling hot; her head "opens and shuts" at times; sometimes there are strange noises in the ears; icy chills run up the spine; there are curious sensations in the stomach and abdomen, as if something alive were in the bowels; flutterings about the epigastrium; a ball rising in the throat, &c. The catamenia are sometimes regular, sometimes occurring at intervals of three months or longer; and if the latter, the patient will attribute many of her uncomfortable sensations to "those things flying about her." Not uncommonly such a patient will have ceased to be poorly for a year or two.

The treatment of such a case is sometimes very simple and satisfactory; a few doses only of medicine, and a strict attention to the diet, bringing very great relief. More often perhaps the symptoms are rather obstinate, and it may take some weeks to effect much improvement. If the bowels are costive, the water thick or high-coloured, and the tongue coated, Dr. Pollock generally begins by giving a mixture containing three grains of carbonate of ammonia, half a grain of ipecacuanha powder, three grains of rhubarb powder, twenty grains of bicarbonate of potash, to one ounce of peppermint water,—three times a day, half an hour before meals; adding to it, if the nervous symptoms are prominent, half a drachm to one drachm of tincture of valerian. With this he orders some pills—the pil. aloes et assaf. of the British Pharmacopœia, five grains at night, when necessary; or if the bowels are pretty free, five grains of assafœtida every night. Dr. Pollock has reason to believe that the assafœtida is often very useful as a nervine tonic, and in assisting to expel the wind; and he has been asked over and over again to give some more of "those" pills, in spite of their nasty smell and taste.

If there is much sickness, bismuth and chloric ether may be of great service, with or without the rhubarb and potash, and especially in those cases where the tongue is unnaturally clean. The author has not found much benefit from prescribing the liquor potassæ in nervous dyspepsia, nor from the dilute nitro-hydrochloric acid in the early stage, though at a later period this acid, with the compound infusion of gentian, is most useful in giving tone to the stomach. When the tongue becomes clean and the stomach less irritable, quinine will often complete the restoration to health; but he feels sure, from frequent experience, that it is worse than useless in the early stages, when the tongue is thickly coated and the stomach very sensitive.

The most important part of the treatment consists in great attention to the diet, and without which we cannot expect much from drugs. The food should be light and nourishing; it should be well chewed before swallowed; plenty of time should be taken over a meal, and not much food taken into the stomach at one time. It is difficult, from the cir-

cumstances of many patients, to get all this attended to; but most of them can do something towards it. Dr. Pollock thinks with regard to beverages, that as a rule it is best to avoid beer, by which he means malt liquor of any kind; and to replace the tea, which is often drunk in excess, by cocoa and plenty of milk. Weak cold brandy-and-water may be taken with advantage at dinner in many cases. With regard to beer, several patients have told the author that it is their only comfort, and seems to support and warm them; but he believes these feelings of comfort and support are usually dearly purchased by subsequent acidity and flatulence. Most dyspeptics have no appetite for breakfast, and, Dr. Pollock conceives, suffer a good deal in consequence from emptiness and flatulence. He has reason to know that taking breakfast for a few mornings, even much against the grain, will eventually create a desire for food at that time of the day; and as it is perhaps the most wholesome meal of any, much comfort will ensue. The author adds that heavy suppers are most injurious.

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## Art. 20.—*Treatment of Delirium Tremens.*

By William M'Crea, M.B. Lond., Chief Medical Officer of Victoria, Australia.

Believing that congestion and inflammation of the membranes of the brain were the true causes of delirium tremens, Dr. M'Crea began, in December, 1864, to use leeches in the aggravated cases, applying twelve under each ear; the effect, he says, was very striking and beneficial, the excitement being greatly reduced, and very often sleep following very rapidly the application of the leeches. In some cases an aggravation of the symptoms came on again, and again twenty-four leeches were applied with corresponding benefit. In one case a third application of twenty-four leeches was necessary, with the effect of permanently controlling the disease. For the last three years (1865, 1866, and 1867) this practice has been pursued. The patients usually arrive at the Melbourne gaol about 3 or 4 o'clock in the afternoon. Dr. M'Crea sees them at once, and all cases are subjected to one uniform treatment. An emetic is first given; after it has ceased to operate, cold affusion is extensively applied to the head, and, if the emetic has not acted on the bowels (which it often does), a brisk purgative of sulphate of magnesia is given. The patient is then put to bed in a quiet room, under the care of night nurses, who supply him with drink (tea or cold water), and keep a succession of wet cloths to his head during the night. In the morning, should the disease show no signs of yielding, twenty-four leeches are at once applied. During the course of the day cold affusion is repeated at intervals of six hours, and if the bowels are not acted on, the purgative is repeated. If the symptoms are aggravated towards night, and the delirium becomes more violent, the leeches are repeated; but unless this is the case, another night is allowed to elapse before the second application of leeches is had recourse to. Then, if there has been no sleep or signs of the disease yielding, the leeches are applied. As before stated, a third application may be necessary. The absence of

any great amount of debility subsequent to the application of a large number of leeches was remarkable, and contrasted favourably with those severe cases which had been previously treated without the application of leeches.

The result of this practice is very striking, the mortality for the last three years till December, 1867, having been 1·1, or little more than 1 per cent.; and for the first seven months of the present year (1868) the mortality has been *nil*.

In the statistical statements of the Melbourne Hospital for the eleven years ending December, 1867, there were 278 cases of delirium tremens treated, the mortality being 37 cases, or 13·3 per cent. Dr. M'Crea has no doubt these cases were all severe attacks. The mode of treatment is not stated.

Dr. M'Crea asks that the application of leeches, in such cases as require them, be not delayed beyond twenty-four hours after the commencement of the attack. The conditions to which the patients in the gaol were subjected were uniform in all modes of treatment—viz. perfect quiet; diet: for the first twenty-four hours, arrowroot and tea; afterwards, beef-tea, bread, and tea; cold water for drink; and lastly, an entire absence of stimulants.

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## Art. 21.—*On Organic Affections and Injuries of the Spinal Cord, producing some of the Symptoms of Spinal Hemiplegia.*

By C. E. Brown-Séquard, M.D., F.R.S., Fellow of the Royal College of Physicians of London, Member of the National Academy of Sciences (U.S.), &c.

(*The Lancet*, May 22.)

In a case of evident disease of, or injury to, the spinal cord, if we find several, or even only one, of the following symptoms, we can, says Dr. Brown-Séquard, positively conclude that the lesion is located in one of the lateral halves of the spinal cord, and, still more, we can surely know in which of these halves it exists.

1st. A paralysis of voluntary movements limited to one of the lateral halves of the body, shows also that the lesion is in the corresponding half of the spinal cord.

2nd. A paralysis of the muscular sense in one only of the lateral halves of the body, shows also that the lesion is in the corresponding half of the spinal cord.

3rd. A paralysis of the vaso-motor nerves, chiefly evidenced by an elevation of temperature in one of the lateral halves of the body, equally shows that the lesion is in the corresponding half of the spinal cord.

4th. Hyperæsthesia—*i. e.*, an increased power of feeling and not pain—in one of the lateral halves of the body, clearly indicates also that the lesion is in the corresponding half of the spinal cord.

5th. The various ocular and facial symptoms, which we know as effects of the paralysis of the cervical sympathetic nerve—*i. e.*, vascular dilatation, elevation of temperature, hyperæsthesia, partial closure of

the eyelids, constriction of the pupil, &c.,—in one of the lateral halves of the head and face, positively show also that the lesion is in the corresponding half of the spinal cord.

6th. Anæsthesia in one of the lateral halves of the body leaves no doubt that the lesion is in the opposite half of the spinal cord.

The facts Dr. Brown-Séquard has brought forward, and the deductions he has drawn from them, give, he writes, a strong foundation to the two following propositions, relating also to cases in which it is known that an injury or a disease exists in the spinal cord.

1st. When a paralysis exists in both sides of the body, in a greater degree, however, in one than in the other, the lesion is in both sides of the spinal cord, but chiefly in the side corresponding to that of the greater degree of paralysis.

2nd. When a complete or very marked anæsthesia exists in one of the lateral halves of the body, with some diminution of sensibility, instead of hyperæsthesia, in the other half, the lesion exists chiefly in the lateral half of the spinal cord corresponding to the side of least anæsthesia, but it extends slightly to the other half of the spinal nervous centre.

Other features of organic affections or injuries in the cervical region of the spinal cord deserve notice; these peculiarities are—1st, that a lesion in the upper part of the cervical region of the spinal cord, can produce anæsthesia in the lower, or in the upper limbs, according to its location, and that, consequently, the conductors of sensitive impressions for the lower extremities do not pass through the same part of the spinal nervous centre as those of the upper extremities; 2ndly, that a lesion in the upper part of the cervical region of the spinal marrow, can produce paralysis of voluntary movement in the lower limbs alone, or in the upper limbs alone; and that consequently the conductors serving to that kind of movement for the upper extremities do not pass through the same part of that nervous centre as those going to the lower extremities.

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## Art. 22.—*On Going to Sleep.*

### By Charles H. Moore, F.R.C.S., Surgeon to the Middlesex Hospital.

In his highly interesting and valuable *brochure* "On Going to Sleep," Mr. Moore writes:—"The mechanism of sleep appears to act thus upon the brain. Wakefulness opens the arteries, superseding the influence of the ganglia over them. If intense and prolonged, wakefulness perhaps exhausts the ganglia, but certainly leads to a loss of tone in the cerebral arteries, which throb and are distended beyond the power of contraction, though the brain be weary. No exercise of the brain therefore can put it to sleep. But subsidence of its powers to a degree short of extinction gives occasion to the exercise of another power, which is withheld during the energy of the brain from producing sleep. The first power, that of the brain, overwhelms the less, which is that of the ganglion. Let the first moderate, the influence of the second rises. It is not necessary to conceive this latter as more than an automatic action, a resumption by the ganglion of its natural energy, which is forthwith expended upon

the muscle with which it is connected. Be the brain therefore weary, or bewildered out of its attention, or soothed by a monotonous sound, or simply unoccupied, straightway the ganglia, set free for separate action, usurp supremacy, not over the brain, but over the arteries. The exact proportion of activity between the brain and the cervical ganglia which is requisite for setting the latter free is a matter of degree only, and is from the nature of the case undefinable, and possibly variable. But this indefiniteness, in fact, characterizes the subject. It is intelligible only as an exquisite balancing of uncertain forces, and too absolute a mind misses the fact of their relation in the shifting and vagueness of it. They sleep soonest who sleep the least. But with those to whom thinking is a necessity or a delight, how delicately poised sometimes is the alternative of sleeping and waking! The power seems to oscillate between mental willingness to withdraw from thought and some unknown faculty which we can neither localize, nor feel, nor woo, and the accession of which to its desired supremacy waits only for an instant when we give up the attempt to command it, the effort to yield to it, the feeling even to long for it: for all such occupation of mind, as it keeps the brain active, withholds from the bloodvessels their ganglionic stimulus to contract. But at any moment when the attention of the brain is unconcentrated, instantly the ganglia become uncontrolled and primary nervous centres, and reduce the size of the arteries.

It may sometimes be that the arteries do not wholly contract at once, and that indeed usually the supervention of deepest sleep is not sudden. It is doubtless always so far gradual as to be due to the most thorough contraction of the arteries. Occasionally, the brain, while moderating its own activity, but still alive to any sensory discomfort, may be again aroused, and again supersede the ganglia. Thus, while sleep is doubtfully coming and going, there may be variations in the size of the arteries, corresponding with the alternate departures and returns of consciousness. But all lessening of the blood-stream tends to reduce the capability of the brain for action, and gives an advantage to the ganglia which increases until the arteries are duly shrunken, and the sleep is complete.

The mystery of going to sleep accordingly consists in the fact, that sleep obliterates the very faculties by which alone we might discover its nature. In the present state of existence we know ourselves through the body, and so long as we are possessed of the sensations and consciousness due to the body we are not asleep. During any temporary extinction of those faculties, all knowledge is interrupted, including even the manner of the interruption, since the faculties are abolished by a mechanism through which we neither feel nor think. The structures fulfilling this function even dispossess the will, acting themselves involuntarily whilst depriving the brain of its function. And they act imperceptibly, both because they are themselves devoid of prompt feeling, and also because in their action they abolish that sense through which we could be made aware of the action. Such power, and still more that of annulling our consciousness in respect to thought, are surprising enough; but yet more so perhaps is the want of any direct relation between the mechanism which produces sleep and the influences which disturb it. The arteries being outside the brain,

and the ganglia which rule them being in the neck, both are wholly indifferent to impressions which may be made on the organs of sense. Light and sound, for instance, reach only their appropriate organs, and do not affect cervical ganglia, or the arteries which keep the brain asleep. Hence it is that sleep, when profound, sometimes persists through great external disturbances, the mechanism of sleep being neither of a nature nor in a position to be in the least degree influenced by them."

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ART. 23.—*Progressive Muscular Atrophy, with complete Paralysis of the Extremities; Cure by means of the Continuous Current.*

By Dr. NESEMANN, Magdeburg.

(*Berl. Klin. Wochenschr.*, v. 37, 1868; *Schmidt's Jahrb.*, I., 33, 1869; and *British and Foreign Med.-Chir. Review*, April.)

A workman, aged nineteen, some months after a normal attack of measles, from which he had perfectly recovered, complained of a weakness in the arms. In three weeks this had increased to absolute paralysis, and in the fourth week he had also paresis of the legs.

On admission into hospital there was found great emaciation of the whole body, caused by atrophy of the muscles, the wasting being especially noticeable in the muscles of the hands, and, most of all, in those of the balls of the thumbs, and in the deltoids. Voluntary movement was totally lost in the arms, but the hands were not bird-claw like. In the legs there was only paresis, the extensor muscles being most affected. Faradaic contractility of the muscles was everywhere diminished, and was in direct proportion to their remaining volume and degree of voluntary power. Cutaneous and muscular sensibility were normal, as also were the functions of the cerebral nerves, the bladder, and rectum.

The diagnosis of progressive muscular atrophy was confirmed by "*harpooning*" the deltoid muscles.

During the next two months the disease made rapid progress, and as the paralysis advanced atrophy increased, and faradaic contractility diminished; but respiration, appetite, digestion, and sleep remained unaffected. During this time faradization was used to the muscles individually.

Three months after the patient's admission the treatment by galvanism was begun, and the cervical sympathetic was daily galvanized for ten minutes. Slight improvement was noticed after only a week's treatment. Motor power increased in the legs first; but it was not till six months after the commencement of galvanization that the patient could walk even imperfectly. It was nine months before he could use his arms at all; but after a year the improvement was rapid. The muscles grew in bulk simultaneously with their gain in power. Galvanization was discontinued at the end of sixteen months, but improvement continued, and two months later the patient was perfectly well. On his discharge from the hospital a fragment of muscle was again *harpooned* out of the deltoid. The transverse series of the mus-

cular fibres were well and clearly marked, but here and there some minute oil-globules were seen between, and in otherwise normal fibres. Then, as six months previously, the nerve fibres, visible in the several preparations, appeared to be perfectly normal.

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## Art. 24.—*Treatment of Chorea.*

By Samuel Wilks, M.D., Physician to, and Lecturer on the Practice of Medicine at, Guy's Hospital.

(*Medical Times and Gazette*, February 6, 1869.)

Many years ago, seeing that every medicine in the Pharmacopœia as well as several others out of it, were said to be equal to the cure of chorea, Dr. Wilks determined to watch the disease untrammelled by medicines, and he found that in many cases a speedy recovery took place without the administration of any medicine whatever. The cases which did best were the severe ones, excepting always those which were of the most violent and acute description. The first case which he watched was a little girl who had severe chorea; she was too bad to be able to stand, and was obliged to have sideboards to her bed to prevent her wriggling out of it. This child began to improve in a day or two, and went out well in a month. This is only one example of several of the same kind. Dr. Wilks takes it that the patient, being subject to constant excitement or improper treatment at her own home, has her disease there perpetuated, whereas when brought to the hospital, being under the influence of strangers who endeavour to make her suppress the movements, and by the additional advantage of good living, she begins to recover. He should say that a weakened condition of the nervous centres being at the root of the malady, good nourishment and the tonic plan are necessary. After having learned the fact that the tendency of the disease is towards recovery as soon as all the circumstances which formerly surrounded the patient were removed, Dr. Wilks soon afterwards learned that the cure is expedited by tonic medicines of the mineral kind, and this is the experience of the majority of the profession. Dr. Wilks does not believe that iron or zinc act in any specific manner; they are useful, but operate as nervine tonics. Dr. Elliotson many years ago acquired great fame by his success in the treatment of chorea, his remedy being the red oxide of iron. It is given, and it is one of the best of remedies; children very willingly take half-drachm doses in treacle. Probably an equally favourite remedy is the zinc—in fact, it is the medicine most commonly given, beginning with grain doses, and increasing to any amount, as a scruple three times daily. A favourite remedy of Dr. Wilks's late colleague Dr. Hughes was rhubarb steeped in port wine; the children were thus well kept up at the same time that the stomach and bowels were improved in condition.

In very chronic cases, and those where a part of the body only is affected, medicines are of little use. In some of these electricity has been sometimes curative; in some cases shower-baths have acted with the best success. One writer has advocated the use of liniments, as of

chloroform, to the spine. Often nothing less than a thorough change of scene will suffice to break the habit. If this opportunity do not occur, gymnastic exercises are of use. They not only strengthen the muscles and nerves, but they break the bad habit; they convert, in fact, an irregular movement into a regular one. If the arms are constantly moving, and are then employed in grasping a beam for swinging, a new and altered condition of the whole machinery accrues, and in time the habitual irregular actions are worn out.

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## Art. 25.—*Progressive Muscular Atrophy.*

By Samuel Wilks, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

This is a paralysis in which the muscle itself wastes. Clinically, the case is a clear one; the muscles waste, and thus a form of paralysis is produced of a very striking kind. The disease appears to commence in the upper extremities, and is often confined to them, commencing in one arm or a part of the arm. Thus most frequently our patients walk into the hospital and present little amiss with them at first sight, but you then observe their drooping shoulders, and their arms hanging at their sides as if they did not belong to them. On stripping the patient you see his remarkable condition—not a mere thinness or ordinary wasting from the absorption of fat, but the muscle itself has degenerated; you see the acromion projecting and the deltoid flat, the trapezius wasted and the head falling forward. The biceps in the same manner is wasted, as well as the muscles of the forearm and hand; it is in the latter that you generally at once recognise the disease. The muscles of the thumb or hypothenar eminences have disappeared, and owing to the shrinking of the interossei, there are deep furrows between the metacarpal bones. As a consequence, the fingers become drawn back until the hand puts on the appearance of the talons of a bird of prey, and thus the French have given it the name of *main en griffe*, or griffin's claw. The forearm in like manner has lost its roundness and become flattened. The whole appearance of the patient is most striking; he stands with his head bent forwards, or even in bad cases with his chin resting on his breast; his arms hang down in front of him as if they were merely attached to him by strings or ligaments. His chest does not expand freely, and his abdomen is loose and projects. If his legs have become affected, they have lost their roundness, and the muscles of the face may at last have become involved, so that the patient presents an idiotic expression, and dribbles from the mouth. Finally, the chest may become more affected, then the laryngeal muscles; the vital process of respiration is attacked, the voice is lost, mucus collects in the tubes, expectoration fails, and death ends the scene.

It is remarkable that just as in the locomotor ataxy the disease is more especially confined to the lower end of the cord, and as a consequence the legs may be solely affected, so in the progressive muscular atrophy it is the arms which are primarily and principally paralysed. In the early cases you will have carefully to test what muscles, and to

what degree they are affected, and you will find that the paralysis does not follow the distribution of any particular nerve. As you are treating your patient, you test the increase of power by making him raise his arm, then place it before him, see how far he can stretch it behind him, and then test the extension, flexion, and pronation of the forearm, &c. You may sometimes remark, as Cruveilhier pointed out, a remarkable tremor or quivering of the muscles, especially the trapezius, when you attentively watch it; or you may bring the movement out by gently tapping the surface.

The following is, Dr. Wilks remarks, one of the most remarkable examples of recovery from a malady apparently incurable that he has ever witnessed, and one of the worst cases of progressive muscular atrophy that have ever been cured, for it is simply impossible that the disease could have existed in any more severe degree than was here present.

"A girl, aged twenty-four, was sent to the hospital on July 4, 1866, by my friend Dr. Buzzard. She lived in the country, and owing to a number of circumstances connected with family affairs she began to fail in health about eighteen months before her admission. A weakness and wasting began in her arms, and then in other parts of the body, until in six months' time she was obliged to take to her bed. During the year she kept her bed she passed her motions involuntarily, and was in a perfectly helpless condition; menstruation had altogether ceased. On admission she was seen to be in the most pitiable condition that you can well imagine—she was so emaciated that she was little better than a skeleton. She lay on her back scarcely able to move or raise her arms from her side. Her fingers were contracted into the griffin's-claw shape. The interossei seemed to have quite disappeared, so that the tips of one's fingers could be felt between the metacarpal bones. The radius and ulna showed their complete outline throughout. In same manner were the legs wasted, and the abdomen so flat that the spine could be clearly felt. In fact, all the muscles were so atrophied that I believed that they must have disappeared, a little fibre tissue remaining in their place. She had a slight blue line on the gums, which suggested poisoning by lead, and therefore Dr. Buzzard took the trouble to visit her home in order to see if she could have been poisoned unwittingly by this metal, but he failed altogether in proving it. She was, however, ordered some iodide of potassium and faradization to the arms and legs. The galvanism produced no effect on the extensor muscles, and only a slight one on the flexors. It was, however, rigidly followed up by Mr. Branford Edwards and my other clerks, and to these gentlemen she owes her restoration to health. In two months' time it was very evident that she was better; she could move her limbs, and the muscles had grown visible. In another month she could use a fork, and was able to write a little. In November she was able to get up and walk across the ward by means of a chair, and the catamenia had returned. She continued the faradization, and the cure progressed more quickly until January, when she left the hospital convalescent. It was three or four months after this that she called on me to show herself. I did not recognise her at first, as she was a ruddy plump girl, and said she was in good health."

The cause of the disease and its pathology, Dr. Wilks writes, are very obscure. Some have considered that it was due to injury, others to cold

or placing the hands in cold water. Those who trace its origin to disease of the medulla would look to causes operating on the centre, and thus, in two cases described by Dr. Gull, there was a distinct history of an injury to the spine. What we find on examination is an atrophy of the muscles. The tissue is withered, the sarcous element gone, the markings have disappeared, and granules taken their place. Some of these may be composed of fat, but the change in the muscle is not a simple fatty degeneration. Cruveilhier thought that this was the essence of the disease, and, as a consequence, the nerves supplying the muscles wasted; the atrophy being most apparent in the anterior roots as they enter the spinal cord. He found no disease of the cord itself. Virchow, however, observed in one case that the medulla was pervaded by a grey translucent substance. In the one described by Dr. Gull there was disease in the cord, and in that just mentioned lately under my own care the change in both the white and grey portions was most marked. Dr. Lockhart Clarke's researches have quite confirmed the view of progressive muscular atrophy being a central disease.

We have, then, three theories for the disease: the one that it has originated in the spinal cord, another that the anterior roots of the nerves are in some way primarily affected, and a third, the theory which until quite lately has generally been received, that the disease commences in the muscles themselves. Those who hold the last opinion would not, Dr. Wilks believes, deny that the cause might be so far nervous that the wasting of the muscle is due to a failure of nutrition, and that this might be brought about by a change in the bloodvessels, influenced by the vaso-motor nerves, but they would still maintain that the disease is peripheral and not central. This width of opinion ought of course to be granted in all cases where a change of tissue is spoken of, unless a special element has been actually found to be primarily affected.

An argument formerly used against the supposed spinal origin of the affection, that there is no necessary atrophy in hemiplegia or the paraplegia of spine disease, is no longer of weight, since it is believed that the nerves are compound, and that the filaments of which they are composed originate in the different functional spheres of the cord or brain, and consequently that morbid changes in particular portions of the centres would only cause paralysis of some of the nerve-fibres—that although a destruction of the whole trunk would necessitate a paralysis of every function which it possessed, yet that a disease in one part of the cord where certain fibres originated would destroy only one function, and disease in another part some other function. Thus, in disease of the brain producing hemiplegia, motion and sensation may be lost, but nutrition remains, and the same may be seen in many forms of paraplegia arising from disease in the medulla; but in the present case it would be naturally surmised that the nerves of nutrition were attacked. It has not yet, however, been positively shown whether this nutritive element of a nerve is derived direct from the cord or merely from the sympathetic, which joins the spinal nerve. If from the latter, we might suppose a disease of the cord and of anterior roots to be the prime mischief. But experiments seem to prove that the integrity of a nerve is due to the healthy state of the ganglion on the posterior root, and thus a disease situated therein might explain the pathology of muscular

atrophy. Dr. Wilks believes he is right in saying that this is Lockhart Clarke's suggestion. At the same time, this fact must be borne in mind—that injury to the nerve which excites the muscle to action not only paralyses the muscle, but occasions its atrophy.

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## Art. 26.—*Lead Paralysis.*

### By Samuel Wilks, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

This disease, Dr. Wilks writes, so exactly resembles that just described that it is very often impossible to distinguish between them. If the metal has been thoroughly implanted in the system, a fatal result may ensue. All the tissues of the body degenerate, the skin assumes a remarkably waxen appearance, the nerve centres more especially suffer, and the patient becomes at last paralysed both in body and mind. A mania or dementia may result, accompanied by epileptic fits. In a less degree the effects are constantly seen, as in the dropped wrist of the painter, followed by a paralysis of the whole arm, in which the muscles waste just as in the disease described. Dr. Wilks has more than once seen a patient admitted and treated for progressive muscular atrophy, in whom there has been a lead line on the gums and a good history of plumbism. It might be thought that so analogous a result might elucidate the pathology of the idiopathic muscular atrophy; but as yet it proves no more than that nutrition is affected through the influence of the sympathetic nerves on the bloodvessels. Lead, as you know, is given to arrest hæmorrhage, and acts by constringing the vessels. You can therefore see how its overaction or its continued action would produce an atrophy of the tissues. Duchenne states in his work that we have one means by which we can distinguish between lead palsy and the idiopathic atrophy. In the latter the most remarkable wasting is seen in the interossei and other muscles of the hand, so that the claw shape is produced. In lead palsy the effect is most marked on the extensor longus digitorum, and as this muscle, when healthy and excited by faradization, is stated by Duchenne to act only on the first phalanges, and has no influence on the second and third digits, it consequently follows that if this muscle is paralysed, as in plumbism, and the arm and wrist be supported on a table, the fingers can still be extended or raised, which cannot occur in the progressive muscular atrophy when the interossei and lumbricales are affected.

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## Art. 27.—*Mercurial Paralysis.*

### By Samuel Wilks, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

Dr. Wilks next alludes to mercury, as its poisonous effects have occasionally been referred to spontaneous causes, and because, in a complete saturation of the system, the nervous centres seem to be

most strikingly affected. Formerly the effects of mercurial vapour were constantly seen in looking-glass makers and water gilders, who exhibited the well-known mercurial tremor, and these same persons, if they persisted in the employment, became at last quite shattered in health. Such instances are at the present time by no means numerous. Dr. Wilks has seen, however, within the last few years, two cases showing in a much more striking manner the destructive nature of mercury, but in neither case were they due to the inhalation of the metallic fumes as formerly witnessed.

The first case was that of a man admitted into Guy's Hospital for a form of general paralysis from which he was suffering. It was discovered that he had been in the habit of packing the skins of animals, and that these had been washed with an acid solution of mercury. For three years he had been employed thus, when he began to experience a general muscular weakness. He could scarcely walk, and, when attempting to do so, it produced a general tremulousness over the whole body. When lying down, he had spasmodic movements of the chest and of the muscles of the body, resembling those of chorea. He gradually became more feeble, delirious at times, and he afterwards fell into a state of unconsciousness. The post-mortem examination showed no evident disease of any of the organs, but a chemical analysis by Dr. Taylor proved the existence of mercury in many of the tissues of the body.

A more marked case than even this of the destructive effects of mercury on the body Dr. Wilks had an opportunity of seeing in St. Bartholomew's Hospital. A young man had been engaged in the laboratory in the preparation of mercurial methide for about three months, when he began to complain of dimness of sight, numbness of the hands, and general weakness. These symptoms increased, until at last he was obliged to be sent to bed. When Dr. Wilks saw him he was almost completely paralysed; he was lying prostrate in bed, perfectly helpless, being scarcely able to move either his arm or legs, and there was paralysis of the bladder. He could not speak, and was quite deaf. The heart's action was quick and feeble. The mouth was not sore, but the gums had been at one time spongy, when there was also fœtor. He got weaker and weaker, and died in about a fortnight.

Another young man employed in the manufacture of the same article was also similarly affected, the symptoms being those of a complete paralysis of body and mind. He lost all feeling, all power of motion, became deaf, unable to speak, and quite idiotic.

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## Art. 28.—*Treatment of Diseases of the Nervous System.*

By Samuel Wilks, M.D., Physician to, and Lecturer on the Practice of Medicine at, Guy's Hospital.

(*Medical Times and Gazette,* April 10, 1868.)

The remedies for nervous diseases are mostly of two kinds. There are those which act directly on the nervous system, and are hoped to

cure either by setting up a counter-action, or by producing a temporary soothing effect until time works the result, and there are those which are styled the nervine tonics, consisting mostly of the metals.

Amongst the former there are few which Dr. Wilks believes can be regarded as valuable remedies in diseases of the nervous system. Thus *opium*, which, by its indirect influence on nutritive processes, is one of the most valuable remedies in the Pharmacopœia, is all but powerless in such diseases as mania, chorea, tetanus, and convulsions of all kinds. An all but poisonous dose may arrest the symptoms for a time, but only for them to recur with the same violence as before. *Belladonna*, again, may, through the nerves, control the disordered action of a particular part, but the author thinks very little can be said favourable to its influence over diseases of the brain and spinal cord; he excepts a few cases where epilepsy has been apparently relieved by it. So with *conium* and *henbane*, remedies which are useful in complaints of other organs than the brain. Dr. Wilks would say the same of *strychnia*, a medicine the effects of which are slight, considering the extent to which it is administered. Its general effects on the nervous system are as disappointing as its direct effects on the stomach are encouraging, for he regards it as one of our very best tonics in some forms of dyspepsia. The same may be said of *aconite;* it is a drug which, acting powerfully on the nervous system, influences nutritive processes in various parts, but its direct operation on the centres to alter their morbid states appears to be very slight indeed.

*Chloroform*, which, as a temporary remedy, produces such a wonderful stillness of the nervous system, produces no permanent effect. Dr. Wilks can say little more of *cannabis indica*, *camphor*, *physostigma*, *prussic acid*, and such like medicines, which have such a powerful physiological effect on the nervous system; in the treatment of disease they could not be exchanged for the more simple drugs, as nitrate of potash or sulphate of magnesia.

Remedies which act indirectly, it may be, upon the bloodvessels of the centres, such as the metals, have contributed more than any other means to the cure of nervous disorders. Foremost stands *iron*, and then *zinc; silver* has been found useful in some cases, and in not a few *arsenic*. The most striking effects are seen in neuralgia, where iron and arsenic are often found to produce a cure without any possibility of doubt. In this class of affections arsenic is one of the most important medicines which we possess; it is difficult to foretell a cure, but in tic of the face, sciatica, pleurodynia, gastralgia, and other nervous affections its beneficial effect is often most marked. There is again *quinine*, which has cured more nervous disorders than all the physiological remedies combined.

In speaking of the method of introducing medicine by the skin—the hypodermic method, Dr. Wilks says, the advantages are that it acts speedily, and does not injuriously affect the system as when taken by the mouth. He has seen a gentleman who suffered agonies with spine disease take morphia in the usual way, and it produced sickness, parched mouth, and other unpleasant symptoms, and at the same time long before the system responded to its influence; but when injected

through the skin it speedily soothed the system, relieved the local pain, and no unpleasant consequence resulted.

Then, again, amongst the remedies for local nervous affections we have local remedies, and these are of various kinds. There is the class of soothing medicines already named, made into the form of liniments, ointments, &c. These are sometimes useful, but often less efficacious than applications of an altogether different kind, as blisters and hot applications. There are many instances where a blister is efficacious after every soothing remedy has failed, and as regards hot applications, Dr. Wilks states he cannot speak too highly. Besides the heat, stimulating lotions are often highly efficacious, as the tincture of capsicum or mustard. Amongst popular remedies is the tinctura arnicæ. Dr. Wilks cannot say that his experience of it has been large, but he has seen enough of it not to ignore it, but considers it to be sometimes a useful remedy. In one case of a patient who had a violent neuralgic pain following shingles, arnica was used, and the patient soon got relief, but at the same time an eruption came out, which is very usual after the use of this drug. The lotion was then discontinued, the eruption faded, and the pain returned. In this case it seemed to act as a counter-irritant.

Just as hot applications are useful in many painful affections of the nerves, so is the cold douche in some paralytic conditions. The author has seen cases of writers' cramp and such like maladies much benefited by allowing a stream of cold water to run upon the weakened limb.

In speaking of galvanism, Dr. Wilks says some of the cures at Guy's Hospital have been most remarkable. Its value has been greatest where faradization had previously failed. Thus in lead paralysis, where very little result had previously been seen by the induced current, a more marked effect was here obtained. There are different kinds of paralysis in which the induced current and the constant current have respectively their curative effects; but much yet has to be learned as to the further application of the remedies. It is beginning to be used in painful affections of the nerves and muscles, as neuralgia and myalgia. Cases have been reported of its efficacy in sciatica, and as regards the muscular painful affections in hysterical women its value Dr. Wilks has seen. Even the pains attendant on organic disease of the spinal cord are relieved by the application of the continuous current. Much care is required in its management, for, if galvanism is a useful agent, we may suppose it also to be injurious if wrongly applied. In the experiments on frogs and other animals, if a current pass down a motor nerve, the function is increased, but an opposite effect produced if the poles be reversed. Whilst the current passes downwards the hind legs are moved; if the poles are reversed, the front legs are moved, and the animal at the same time cries out.

It has already been put into use to stimulate the uterus; also the bowels in constipation, also in aneurism to produce coagulation of the blood.

## Art. 29.—*Pathogenesis of Epilepsy.*

By C. E. Brown-Séquard, M.D., F.R.S.

(*British Medical Journal*, February 6.)

Dr. Brown-Séquard has communicated to the French Academy the results of new researches which he has made upon animals in order to study the effects of lesions of the spinal cord. Carrying further his well-known experiments of cutting one of the lateral columns of the spinal cord near the tenth dorsal vertebra, he has ascertained that epileptiform attacks may be induced in guinea-pigs, not only by this means, but also by the section of the cord higher up and nearer the bulb. He has also seen the attacks occur after a double section in the muscles innervated by the segment of the cord comprised between the two sections. Thus it would seem that the greater part of the cord takes an active part in the production of the convulsions. The brain seems to take no part in them. He has removed the brain, cerebellum, and pons from these epileptic guinea-pigs, maintaining life by artificial respiration. The epileptic attacks have continued, in spite of the removal of the encephalon. In the course of the discussion, M. Colin threw doubt upon the truly epileptic character of these attacks. Dr. Brown-Séquard said he had only once been able to produce epilepsy by unilateral division of the cord in any other animal than a guinea-pig; this was in a cat. The attacks produced in the guinea-pig were truly epileptic; and the epilepsy so produced was hereditarily transmitted. M. Hardy said that clinical observation in the human subject showed that compression or injury of the brain, traumatic or by tumour, especially the posterior part, did produce epileptiform symptoms; while injuries of the spinal cord did not. There was a complete discordance between these clinical observations and the results of Dr. Brown-Séquard's experiments. Dr. Brown-Séquard said that, after analysing hundreds of cases of cerebral lesion, he was convinced that diseases of the cerebral substance were incapable of producing epileptic symptoms; and that, when these occurred in the course of encephalic disease, he was disposed to attribute them to concomitant lesions of the meninges. M. Ricord confirmed the experience of M. Hardy.

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## Art. 30.—*On the Treatment of "Epileptiform" Neuralgia in its Earlier Stages.*

By Francis E. Anstie, M.D., F.R.C.P., Senior Assistant-Physician to the Westminster Hospital.

(*The Lancet*, January 9.)

The following is the treatment recommended by Dr. Anstie.—1. Counter-irritation of a peculiar kind. 2. Nutritive tonics. 3. Subcutaneous injection of morphia, or of atropia, according to circumstances.

1. Counter-irritation, Dr. Anstie writes, to be useful in epileptiform

facial tic, should not be applied to the branches of the fifth, but to those of the occipital nerve, at the nape of the neck. A blister in the former situation is as often hurtful as useful: in the latter, it is sometimes strikingly effective in gaining a short respite. And this is of very great consequence in this awful disease; for the mere fact of such pain being allowed to continue is itself of the worst possible omen. 2. The assiduous use of cod-liver oil, or of some fatty substitute for it, should be insisted on from the first, and is of the highest consequence. 3. Subcutaneous injection places us in a totally different position towards the use of opium in spasmodic tic. There is no longer any excuse for the use of enormous doses of opium from the first. It will be sufficient to commence with the use of one-sixth of a grain of morphia twice daily, increasing this, if necessary, to one-fourth and one-half a grain; and, in rare cases, to one grain. If this produces, along with the other measures, a notable remission of the pain, it should be cautiously and steadily decreased, as circumstances may admit. In cases where morphia fails, atropia may be tried, in doses commencing at one-sixtieth of a grain. The injection of a less quantity than this would probably be useless in severe tic.

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## Art. 31.—*Treatment of Epilepsy.*

### By C. E. Brown-Séquard, M.D., F.R.S.

(*Diagnosis and Treatment of Functional Nervous Affections*, 1868.)

Dr. Brown-Séquard states that his usual prescription for epilepsy is as follows:—

Iodide of potassium, one drachm.
Bromide of potassium, one ounce.
Bromide of ammonium, two drachms and a half.
Bicarbonate of potash, two scruples.
Infusion of calumba, six fluid ounces. Mix.

A teaspoonful of the mixture to be taken before each of the three meals, and three teaspoonfuls at bedtime with a little water.

In syphilitic cases he increases the amount of iodide of potassium. In administering the bromides it is necessary to give a relatively larger dose at bedtime, and smaller doses in the day if sleepiness is caused. The medicine should be pushed till anæsthesia of the fauces is produced, and an acne-like eruption appears on the face, neck, and shoulders, &c. The bromides should be continued for fifteen or sixteen months after the attacks have ceased. An occasional purgative ought to be given, and if any debility be produced by the use of the bromides, wine and nourishing food should be used, with cod-liver oil, arsenic, strychnia, &c.; and the cold douche or shower-bath employed.

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## Art. 32.—*Cases of Epilepsy, and Remarks upon their Treatment.*

### Under the care of Dr. Beigel, of the Metropolitan Free Hospital.

(*Medical Times and Gazette*, February 13.)

We are indebted to Dr. Hermann Beigel for the following valuable report upon the treatment pursued by him in cases of epilepsy:—

"My theory concerning epilepsy is as follows:—From the results of former experiments it has been shown that depletion of the cerebrum and the medulla produces general epileptiform fits. But these experiments have not proved that similar results may ensue when such depletion takes place in a limited district—for instance, a group of muscles, or even one single muscle. Depletion gives rise at once to a change of nutrition in the nerves supplying such muscles, and consequently the muscle itself becomes irritated as if by electricity or other irritant. There is good ground for believing that in epilepsy the vaso-motor nerves are the parts primarily affected, in consequence of which the muscular layers of the vessels become contracted. This may be more or less complete, and may be general or partial, according to the nature of the primary irritation of the vaso-motor nerve. If the contraction of the vessels is general—that is to say, if the nervous centres are implicated—the question of its intensity arises. If it be extreme, loss of consciousness sets in; if not, convulsions may occur without loss of consciousness, or neither loss of consciousness nor convulsions occurring, the fit consisting merely of giddiness, impaired vision, and other more or less obscure symptoms, a prominent part of which is constantly impaired circulation through the capillary system. The action of the heart generally remains more or less normal. If the vaso-motor nerves of a limited district be irritated, then of course a similarly limited group of muscles will be affected, and perform contractions—a process which must be considered as epilepsy of these muscles. This is a matter of great practical importance, inasmuch as experience teaches us that these forms of limited epilepsy may at any time become general if the patient indulges in any excess of food, &c., and that, on the other hand, general epilepsy, under proper treatment, may be converted into these slight local convulsions, which sometimes produce comparatively little inconvenience to the patient.

"These facts are borne out by the results of experience on which we cannot dwell here, and by the mode in which epilepsy in the largest number of cases is acquired, and by the results obtained by treatment, or, as the old physicians used to express it, *ex juvantibus et nocentibus*.

"It is a well-known fact that the larger number of cases of epilepsy—at all events a very large number of cases—are acquired by strong emotions or mental affections, particularly such as act suddenly and intensely—sudden shock. Now, this admits no other explanation than that of sudden change of nutrition in the nervous spheres, and further observations lead us to believe that the vaso-motor nerve is the sphere primarily so affected.

"Concerning treatment, we are all aware that amongst the large

number of remedies such only have any visible effect as belong to the class of nervines. According to my experience, which extends over several hundred cases, there are only two remedies which render good, and even very good service, in the treatment of epilepsy—namely, large doses of bromide of potassium, and morphia if used hypodermically. I have tried nearly all drugs recommended by the authors on epilepsy, but failed to see any result worthy of notice. But bromide of potassium has doubtless the power of delaying the attacks, so that a patient who has previously had perhaps several fits in one week, has one every few months—a delay which remains stationary in many cases, even after the remedy has been left off, provided it has been taken for a sufficiently long period. The same result is obtained by hypodermic injection of morphia, which acts much more rapidly and intensely. I use the bromide of potassium in children and in such adults as are ill-nourished, and employ hypodermic injections if no other complication exists with true idiopathic epilepsy."

To these remarks Dr. Beigel adds several cases, not, however, to show that the results of the treatment by bromide of potassium or hypodermic injection of morphia, or a combination of both, which in some cases may become necessary, will be the same in all instances, but to show that this kind of treatment is capable of producing very good results, if employed for sufficiently long periods, in cases suitable for the treatment. Of course, even when these conditions were fulfilled, Dr. Beigel has met with many cases which did not yield to the treatment. Yet he feels justified in saying that the treatment just mentioned is—at least according to his experience—much more satisfactory than other remedies, and that the number of patients who have been cured or improved is, as far as Dr. Beigel is able to gather from statistic records, considerably larger than that obtained by any other method of treatment.

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### (B) CONCERNING THE RESPIRATORY SYSTEM.

## ART. 33.—*On Pneumonia.*

### By HUGHES BENNETT, M.D.

(*The Lancet,* May 1.)

Dr. Bennett, in a paper on "Pneumonia," read at a meeting of the Medical Society of London on the 26th of April, commenced by condemning the existing mode of clinical and therapeutical observation of cases as insufficient, declaring that four things were necessary to a satisfactory observation: an accurate diagnosis of the disease present, a thorough understanding of the pathological conditions, a careful marking of the progress of the cases under criticism, and fourthly, the preparation of a statistical chart embodying the treatment.

The author next stated that since the publication of his 129 cases of pneumonia, some years since, he had watched the progress of professional opinion, and the additional evidence that he had obtained has only strengthened his views. He referred to the circumstance that his own cases included acute primary pneumonia, whereas other observers

had not drawn a distinction between these and instances of secondary pneumonia. Dr. Bennett referred especially to some remarks of Dr. Sieveking, recently published, in which he sought to lay down, amongst others, the principle that pneumonia is different in type at different times; and he explained that varying degrees in strength, or various complications, might exist in cases; but this was no proof—though it might be taken as such—of change of type. Dr. Sieveking's facts were insufficient; and it would be well that Dr. Sieveking should base his observations on at least 100 properly recorded cases. Dr. Richardson's recent exposition of the value of bloodletting in disease was commented upon, Dr. Bennett objecting to the diagnosis of the ancients, which, being inaccurate, would introduce an element of uncertainty into the observation of the effect of remedies. The ancients also, the author contended, believed that if symptoms were relieved, the disease was also relieved. There was indeed no confidence to be placed in these views and statements, from the fact that they did not understand the relationship of symptoms. Dr. Bennett claimed for the modern physician more than the power to arrest symptoms,—to treat the disease on which the symptoms depended. In former times, when venesection was resorted to, 1 in 3 recovered, and the convalescence was regarded as evidence of successful treatment. Now, under the adoption of the "restorative plan," 1 in 27 or 30 only died, as shown by the details of large numbers of tabulated cases. He objected to that kind of medical writing in which plausibilities are supported by the narration of a few successful cases. Dr. Bennett concluded with the following axioms (briefly stated):—1. That the great end of treatment was to remove the consolidation of the lung, and to restore the organ to its normal state. 2. All that diminishes the vital strength should be avoided. 3. There is no relation between the violence of the symptoms and the fatality of the disease, though the young are attacked most. 4. A weak pulse, or want of reaction, the non-disappearance of the solidification, flagging heart action, &c., were bad symptoms. 5. Low diet, too much or too early exercise, the use of purgatives, expectorants, and other lowering measures in convalescence, are bad. 6. In double pneumonia, with such special symptoms as severe dyspnœa, small bloodlettings might be used with advantage. 7. Local pain should be relieved by large poultices. 8. The true disease was hepatization; this was removed by the transformation of the solid material into pus, its liquefaction, its part absorption into the blood, and its evacuation through the excretory organs. 9. These events were favoured by the restorative plan, and diuretics during the progress of disease. 10. The same pathological considerations and contingent treatment should be had regard to in all cases, complications being met by special means. Altogether, Dr. Bennett had observed in his own wards 153 cases; of these 129 were simple, and 24 complicated, cases (at least this is what we understood): of the 129 cases, all recovered; of the 24, five died. That is, out of the total, 1 in $30\frac{3}{5}$ died; in simple cases the amount was *nil*.

## Art. 34.—*Thermometric Observations on Pneumonia.*

By Thomas Wrigley Grimshaw, A.B., M.D., Lecturer on Materia Medica in Steevens' Hospital.

(*Dublin Quarterly Journal of Medical Science*, May.)

The following are the conclusions at which Dr. Grimshaw has arrived:—

1st. Pneumonia has (when uncomplicated) a tolerably definite range of temperature.

2nd. The highest temperature attained is usually between 103° and 104° Fahr.

3rd. The maximum temperature is usually attained on the third, fourth, or fifth day, after which the temperature falls and reaches the normal on the sixth or seventh day.

4th. The height of the thermometer does not necessarily indicate the intensity of the disease.

5th. The fall of temperature does not indicate the cessation of mischief, but only that the disease is about to enter on the third stage.

6th. If a high temperature is maintained for a long time (more than three or four days), or a fresh rise takes place, it indicates a fresh attack in a previously healthy part, or the advent of a complication.

7th. The temperature and pulse usually, though not always, rise and fall together.

8th. The temperature usually decreases before the frequency of the respirations diminish.

9th. A high temperature before the 6th day in a doubtful case generally indicates it to be one of pneumonia and *not* of typhus.

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## Art. 35.—*Sulphur in the Treatment of Croup.*

(*The Lancet*, January 16.)

The use of the perchloride of iron and of the bromide of potassium has been much advocated of late in the treatment of croup and diphtheritic angina. The flour of sulphur, which had already been pointed out by different writers as an excellent remedy in similar cases, is now spoken of in most laudatory terms by a French writer, Dr. Feyreigne, of Toulouse, in whose hands it produced most wonderful effects. Dr. Feyreigne only records one case, but it was a peculiarly bad one. The patient, a little girl of four years, was in a dying condition, with intense diphtheritic angina, when the administration of the flour of sulphur brought her back to life. The dose employed was five grammes of sublimated sulphur to one glass of water; a teaspoonful of the mixture to be given every hour.

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## Art. 36.—*The Use of Chestnut-Leaves (Castanea visca) in Whooping Cough.*

By J. Ludlow, M.D.

(*Cincinnati Lancet and Observer*, and *Medical Press and Circular*, May 12.)

More than two years ago this remedy was brought to Dr. Ludlow's notice by Dr. Unziker, he telling him that in his hands it had never failed to *cure*, not *relieve* the spasm, and bring the disease to a speedy end. Dr. Ludlow therefore determined to give it a fair trial whenever opportunity offered, and in every case that he has treated since, he has invariably used it, and with the happiest results. He has found in all cases that it would in from five to ten days relieve the spasm, and in about two weeks cure it; and the little sufferer would whoop no more, but go on to a speedy recovery, to the great delight of himself and its friends.

Dr. Ludlow makes an infusion of the leaves, by taking one-half of an ounce of them to the pint of boiling water, and afterwards adds a pint of cold water, to which is added sufficient of white sugar to make it palatable to the patient, and give of this *cold* as much as he can get the patient to take during the day and evening. Giving it to drink in place of cold water, the child soon gets to like it, and the author has no trouble in getting a sufficient quantity taken to produce the desired result. This remedy Dr. Ludlow believes of such importance, that he would urge it upon the attention of the profession at large.

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## Art. 37.—*Sulphuret of Potash in Whooping Cough.*

By Dr. Mackelcan.

(*Dominion Medical Journal*, and *New York Medical Journal*, January.)

Dr. Mackelcan calls attention to this remedy. He was led to the use of it from a notice of it which he saw in a French medical journal forty years ago, and since that time his success has been so uniform that he has used no other remedy. He says:—

"The mode of administration I have adopted is to dissolve it in a mixture of syrup and distilled or rain water, in the proportion of one of the former to three parts of the latter (hard water, which sometimes contains sulphuric acid, partially decomposing it), the dose being one grain for each year up to four years of age, and after that half a grain additional for each year; the smaller doses being administered in a teaspoonful of fluid, and the larger more diluted, in proportion to the quantity of the salt in each dose.

"Its beneficial effects are not perceived for five days, when the intervals between the paroxysms of cough become longer, and after that their violence diminishes from day to day, until at the end of ten or fourteen days it is seldom necessary to pursue the treatment further.

"As the drug easily spoils by keeping, it is important to have it fresh. If it dissolves perfectly in the syrup and water, and the mix-

ture is of a greenish colour, it may be relied on; but if there is any sediment, it has been decomposed by exposure to air, and becomes a sulphate."

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## Art. 38.—*On the Treatment of Asthma by Belladonna.*

By Hyde Salter, M.D., F.R.S., Fellow of the Royal College of Physicians, Senior Physician to Charing Cross Hospital.

(*The Lancet*, January 30.)

For the last two years Dr. Salter has used this drug extensively, and is so satisfied with the results that he thinks it worth while to publish a few of his cases, in illustration of its value and of his method of employing it.

The peculiar excellence of belladonna as a sedative in asthma consists in its power of diminishing reflex irritability—a power which it appears to Dr. Salter to possess in a degree greater, in proportion to its other sedative effects, than any other sedative.

Dr. Salter's method of giving it will be best seen in the following cases. He does not know that the tincture has any advantage over other preparations, only it happens to be that which he has tried. The liquor atropiæ might, from its uniformity of strength, be even preferable.

"Case 1.—R. G., a lady, aged twenty-five, who has been liable to hay fever for eleven years and to asthma for seven, came to me on May 18th, 1868, for the cure of her hay asthma. She had been suffering for nearly a month, and had not had a single night's rest. She was not troubled with her asthma by day, but only with her hay-fever symptoms. As soon, however, as she went to bed on came her asthma, and lasted regularly all night. She was worn out for want of rest, and felt fagged and miserable. I ordered ten minims of the tincture of belladonna three times a day, telling her to increase the quantity, day by day, till the characteristic effects of the drug were produced. She gradually raised the dose from the ten minims to twenty. She felt better the first night after taking it. She took it for nine days, and had no asthma whatever. She then, thinking herself cured, and feeling her head very uncomfortable, omitted it for one day, and the following night got no sleep from asthma. She then resumed it, and has had no asthma since. She now regularly takes twenty drops three times a day. Her head is slightly affected, and her eyes decidedly so—misty, and she cannot read; but there is not a trace of asthma. She has never found anything else prevent the attacks. The belladonna seems to have no influence whatever over the other hay-fever symptoms; the sneezing, running at the eyes, &c., go on as before.

"Case 2.—Sarah P., aged forty-six, has had asthma ever since she was nineteen years of age—that is, for twenty-seven years. For the last five months she has been worse than ever, and for some time past has had asthma regularly every night. It begins between two and three o'clock, and after that she gets no rest. I ordered her to take the tincture of belladonna every night on going to bed—to begin at ten minims, and gradually to increase the dose until her head and sight became affected. She came to me on the 29th of last July. On the 14th of August I find the following entry in my note-book:—'This patient came to me a fortnight ago yesterday. She has

almost completely lost her symptoms ever since, having had uninterrupted good nights. She has gradually reached thirty drops of the tincture of belladonna, and now takes it every night. She looks wonderfully better, and is able to take long walks.' From that time I have not heard anything of her.

"CASE 3.—Col. R., aged forty, has had asthma for sixteen years. For the last few years it has been gradually getting worse, and now he has it almost every night, commencing at from one to two o'clock A.M. He has tried various things without any success—Indian hemp, chlorodyne, ether, the inhalation of chloroform, dry cupping, coffee, iodide of potassium, abstinence, &c. I saw him on Sept. 16th, and ordered him to try the belladonna at night in the usual way. On the 23rd I find the following note :—'He has gradually got the belladonna up to forty minims without any appreciable inconvenience. The nights have been very good. The two last mornings there has been no oppression whatever, nor any sitting up in bed ; he has slept right through the night. He walked this morning, directly after breakfast, from his house at Blackheath to the station—a mile—in sixteen minutes, and the same pace up from Charing Cross station here.' I have not seen him since.

"CASE 4.—Wm. P., aged thirty-eight, has been asthmatic seventeen years. His attacks come on every morning on rising from bed, but often trouble him throughout the day as well. There is defective respiration at the right base, violent paroxysmal cough, and a good deal of expectoration. This patient came to me on Oct. 13th. A week after I made the following note :—'Since coming to me this patient has taken the belladonna every night—twenty, twenty-five, and then thirty drops, to which last dose he has stuck. The result is that he is quite a different man. He has slept all through the night, dressed himself without any trouble or difficulty, and has walked half over London as quickly and well as ever in his life. When he arrived in town his breath was so bad that he had the greatest difficulty in getting from the Vauxhall station to the church near the bridge. He spits hardly anything. There is now a complete absence of all musical wheezing, and of any adventitious sound whatever ; respiratory murmur quite re-established at right base, and indeed perfectly natural everywhere. And this change has taken place in one week.'"

For the following case. in which liquor atropiæ was used, Dr. Salter is indebted to his friend Mr. Hodson, of Bishop's Stortford.

"CASE 5.—'John L., aged fifty-five, by occupation a gardener, of active and temperate habits, suffered, from the summer of 1864, from frequent attacks of shortness of breath, followed by expectoration. When he first came under my observation (Sept. 2nd) he presented the appearance of a confirmed asthmatic. The respiratory sounds, whenever I saw him, were always more or less characteristic of asthma. At night he generally became worse, so much so that he often found the greatest difficulty in getting up one flight of stairs to his bedroom. I gave him at first iodide of potassium (five-grain doses), then combined it with decoction of senega, afterwards with squills and compound tincture of camphor. He also took lobelia, &c., and burned nitre-paper. With the exception of the last, which always afforded some relief, the frequency and severity of the attacks were uninfluenced by the treatment ; indeed he became so bad that his life was a burden to him. I was watching his distress one day, and deploring the inefficiency of treatment, and thinking how the constricted state of his bronchial tubes might be overcome, when the idea of trying a drug that so quickly dilated the pupil occurred to me, and I at once determined to bring

him fully under the influence of atropia. He began, Oct. 26th, to take one-sixtieth of a grain in solution every six hours. A few doses produced marked relief, but I pushed the atropia until he took at each dose one-fortieth of a grain. He then became fully under its influence, with greatly impaired vision, entire absence of saliva, and most troublesome strangury. From this time the breathing improved, but he found it necessary to take the medicine two or three times a day up to the middle of the following February. In the spring I sent him for a few weeks for change of air, and upon his return he resumed his full work as a gentleman's gardener, which he has continued without interruption up to the present time (Dec. 1868). When he went away I gave him a supply of his atropia, in case an attack should come on, but he told me yesterday that he has never opened the bottle. During the last three years I have found atropia, in all cases of genuine asthma, quite as useful as in L.'s case, but I have never pushed it with any one else as I did with him.' "

Dr. Salter believes one reason why belladonna has not had a greater reputation as a remedy for asthma is that it has not been given in large enough doses. He thinks that, like lobelia, it must be given in doses sufficiently large to produce its physiological effects, otherwise we have no right to say that it has been fairly tried, or to conclude that it has been a failure if it has not achieved a cure. Dr. Salter thinks to give ten minims three times a day in some mixture is simply worthless.

The advantages of administering it in the way Dr. Salter has described are :—

1. That, giving it at night, you bring the full force of the drug to bear upon the disease at the time at which it is most liable to come on, and thus, if you are successful, tide your patient over the critical time.

2. By gradually feeling your way up to the required dose, you are able ultimately to reach without fear a dose which you would be unwilling to prescribe without such a tentative approach.

3. In those cases in which the therapeutical dose is reached before the physiological—that is, in which the asthma yields before the sight or head is appreciably affected,—it enables you to stop short as soon as relief is obtained, and thus spare your patient any of the disagreeable effects of the drug.

4. By giving it only once in the twenty-four hours, you are able to give a larger dose than you would be able to do if oftener repeated.

5. By confining the dose to bedtime, the patient's days are, in spite of a large dose, passed in comfort; for, as the morning advances, the dulness of head, confusion of sight, and drought of mouth pass away.

6. You are thus enabled to find out what is the dose for the individual—a very important point. People differ very much in their tolerance of belladonna. Some of Dr. Salter's patients have been unable to take more than twenty minims once in the twenty-four hours without very unpleasant symptoms; while he has known others able to take a drachm three times in the same interval without any inconvenience. And as they differ in their tolerance of the drug, so do they differ in the dose at which their asthma will yield. The only way to ascertain what that dose is, is to make each case a separate experiment.

7. By giving the remedy three or four hours before the attack is likely to come on, the treatment becomes *prophylactic*. If by taking a dose every night for thirty nights the attacks have been for that time

prevented, the patient has ceased to be an asthmatic for a month. This is a very different thing from having had thirty attacks in the same time which have been cut short by the remedy. In all "habitual" diseases, in which the recurrence keeps up the tendency, prophylactic treatment has, in relation to final cure, a pre-eminence it does not possess in diseases in which habit has no place. For such diseases it is *the* treatment. It does more than spare your patient an attack of his malady; it breaks, *pro tanto*, that chain of sequences which is the very life of the morbid tendency.

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## Art. 39.—*Hæmorrhagic Phthisis.*

### By Hermann Weber, M.D.

(*The Lancet*, May 1.)

On the 23rd of April, the very important and interesting subject of the influence of hæmoptysis, as a cause of inflammatory processes, and of phthisis in particular, was brought under discussion at the Clinical Society of London. The question was introduced in an able paper by Dr. Hermann Weber, who referred also in detail to the question of the treatment of hæmoptysis. Dr. Weber, after referring to a communication lately made to the Society by Dr. Bäumler, described three instances of hæmoptysis followed by inflammatory processes. The points of analogy in all of them were, that the subjects were men apparently in good health, but predisposed to epistaxis, and they offered no signs of pulmonary disease at the time when they were seized with hæmoptysis; that only several days after the occurrence of the latter, symptoms of bronchial irritation and lobular pneumonia, with pleuritis, manifested themselves, attended by a corresponding degree of fever. In two of these cases the disease terminated in gradual but perfect recovery; while in the third, during the apparent process of recovery, fresh attacks of hæmoptysis took place, again followed by fresh inflammatory changes, and later by another attack of hæmoptysis, leading to immediate death by suffocation. The post-mortem examination exhibited no tubercles, but caseous masses of different ages, surrounded by inflammatory infiltration, and dispersed over different parts of both lungs. The ages of the caseous nodules apparently corresponded to the different dates of the attacks of hæmoptysis; the bronchi and air-cells were partly filled with fresh coagulated blood from the last fatal hæmorrhage, but a large bronchus was filled by an old, partly discoloured coagulum, softened in the centre, and resembling a venous thrombus; some of the old caseous nodules exhibited central softening, and the commencement of the formation of cavities. The author regarded this last case as an instance of a kind of galloping phthisis, caused by the retention of blood in the bronchi and air-cells, and by the changes effected as well in the effused blood as in the surrounding tissues. Dr. Weber considered the inflammatory changes in the two other cases, terminating in recovery, as essentially analogous, as, under unfavourable influences, they might have likewise led to phthisis. He pointed out that this had been the general view until Laennec and his

successors had taught that hæmoptysis was almost always the consequence of already existing tubercular changes in the lungs. He thought it was impossible to interpret the cases on Laennec's view, and that much credit was due to Felix Niemeyer for re-establishing the old Hippocratic view. After having mentioned that in many instances hæmoptysis was not followed by any inflammatory changes, owing to the blood having been more or less completely expelled, he alluded to the irritating influence frequently exercised by the retention of other pathological substances (pus and similar morbid excretions) in the lungs. He then made some remarks on the treatment of hæmoptysis, regarding perfect rest as the most important element, and in many cases sufficient to check even severe hæmoptysis. Amongst the remedies not generally used he placed great value on ergotin in rather large doses, administered either by the stomach or by subcutaneous injections, and to the emetic effects of which he attributed the twofold advantage of arresting the hæmorrhage and of clearing the bronchi. Dr. Weber further recommended a prolonged residence in elevated regions in cases characterized by a tendency to hæmoptysis, remarking that experience had amply shown its beneficial effects, and had disproved the views that a moderate decrease of atmospheric pressure favoured the occurrence of hæmorrhage from the mucous membranes.

Dr. Andrew Clark, in an admirable and really eloquent speech, approved of the contents of the paper, and stated that it was high time to modify the still prevalent views on phthisis and tuberculosis. He would designate the cases mentioned as instances of "hæmorrhagic phthisis," other forms as "pneumonia," and others as "fibrous phthisis," according to the nature of the pathological processes. He mentioned in his remarks that the blood retained in the lungs would also, without leading to any inflammatory processes in the neighbourhood, by changes connected with its own disintegration, lead to the formation of cavities and phthisis.

Dr. Douglas Powell alluded to a fatal case recently examined by him, in corroboration of the view that blood retained in the lungs after an attack of hæmoptysis could be the source of inflammatory processes in the surrounding tissue; and remarked that the changes in the cases observed by him had occurred principally in the lower lobes.

Dr. Buzzard wished to know in what manner the watery extract of secale had been employed hypodermically in cases of hæmoptysis.

Dr. Hermann Weber, in replying, seemed to doubt that the mere disintegration of clots of blood retained in the lungs could lead to the formation of cavities without causing inflammatory changes in the neighbourhood. With regard to the doses of the extract of ergot, he stated that he was in the habit of giving from twenty to thirty grains of the liquid extract of the Pharmacopœia every two or three hours, and that for hypodermic injections two or three grains of the watery extract had been used dissolved in equal parts of glycerine and spirit. He availed himself of the opportunity to direct attention to an important communication by Professor von Langenbeck, at Berlin, on the treatment of aneurisms by hypodermic injections of ergotin.

## Art. 40.—*On the Treatment of Phthisis by Prolonged Residence in Elevated Regions.**

By Hermann Weber, M.D., F.R.C.P., Physician to the German Hospital.

(*The Lancet*, May 22.)

Dr. Weber premises that he uses the term "phthisis" to signify not only "tubercular phthisis," but all the different subacute and chronic inflammatory processes of the lungs usually leading to consumption, especially catarrhal pneumonia and its products; regarding, with Thomas Addison, "inflammation as the great instrument of destruction in every form of phthisis," and sharing, with some modification, the view of Buhl and other authors, that true tuberculosis is not a primary, but a secondary disease,—the result not necessarily of preceding inflammation, and especially of the cheesy transformation of the products of inflammation.

He understands by "elevated regions," those localities where phthisis, owing principally to their elevation, does either not, or only rarely, occur amongst its inhabitants; and points out that the elevation necessary for producing a certain degree of immunity is not an absolute one, but varies in different latitudes, and seems to decrease with the removal from the equator towards the poles. He, however, does not believe that there is any fixed elevation of immunity for every degree of latitude; and is further not of opinion that the elevation in itself is the sole cause of immunity, but that it is materially assisted or counteracted by other climatic elements, as the situation of a place on table-land, or on the top or on the slope of a hill, or at the top of a valley; the aspect to the north or south; the configuration of the surrounding ground; the nearness of standing waters or marshy districts, and the elevation of the place above them; the habitual degree of clearness or mistiness of the atmosphere, its purity, or the degree of admixture of foreign elements, mechanical and organic; the geological structure of the soil, and all the circumstances influencing its degree of dampness or dryness, regarding which subject he specially points to the important results of Bowditch and Buchanan's researches.

The author then expresses his astonishment that in spite of the works of Archibald Smith, Mühry, Hirsch, Jourdanet, and others, there is still amongst medical men a great disinclination to sending consumptive patients to high elevations; and he endeavours to prove that the usual objections are entirely unfounded—that cold is not injurious to delicate persons threatened with consumption, but, on the contrary, often beneficial; that it is not correct that in Alpine health resorts the great cold of the winter altogether prevents invalids being in the open air; that hæmoptysis is not more frequent, but more rare, in moderately high situations; that the principal morbid processes leading to consumption are counteracted; and that the tendency to acute affections (catarrhal and inflammatory) in consumptive conditions is likewise diminished.

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* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, May 11.

Dr. Weber then gives a description of seventeen cases treated by prolonged residence on high-level health resorts, these being not selected, but all the cases which at one time or other came under his own observation, and of which he knows the final result. He refers to fourteen other patients, who are still residing in elevated regions, and regarding whom the final result is as yet unknown. He has, however, reason to think, from written reports, that the progress of these fourteen cases is favourable. The treatment adopted during the stay on high elevations was in most cases only dietetic and hygienic, except during intercurrent acute affections.

The effect of the high-level plan may be described as decidedly satisfactory in fifteen out of seventeen cases, undecided in one, and unsatisfactory in another. None of the patients have died in high elevations. Two, in early stages of subacute phthisis, had been, as shown by the post-mortem examination, quite cured by a prolonged stay in their native mountains, but were some years later, after their return into unhealthy localities and occupations, seized with fresh attacks, rapidly leading to death. Two other patients had been, to all appearance, likewise cured by residence in high regions, but were later, while living in low regions, again attacked by fresh pneumonic affections, with fatal termination. The remaining eleven cases may be regarded, up to this time at least, as cured; most of them had likewise fresh attacks or relapses, sooner or later, after having again settled in low elevations; but a second and third more prolonged stay on high ground led, as far as can be judged, to final cure, provided the long exposure to unfavourable influences be avoided. Some of these patients had previously spent one or several winters in warmer, low-level health resorts (Egypt, Algiers, the Riviera), without having derived the same amount of benefit as they did on high ground, where they were more free from catarrhal and other intercurrent acute affections. Some had one or several attacks of hæmoptysis while in low elevations, but none while on high ground. Of all the thirty-one cases, including the fourteen still under treatment, only one had an attack of hæmoptysis while on high altitudes.

The author does not regard it prudent to enter on a theory of the *modus operandi*. The agents are too numerous, and the physiological and chemical researches as to their influence on man and animals are insufficient. Thus with regard to the rarefaction of the air, he alludes to three or four possibilities:—1. That in order to inhale the same quantity of oxygen as in low elevations, the mechanical respiratory action must be increased. 2. That, without this increase, the quantity of oxygen inhaled is diminished, and that thus oxidation may be retarded. 3. That, in spite of the diminution in the quantity of oxygen inhaled, the oxidation may remain the same, or become even increased, by a greater "mobility of atoms," according to Drs. Frankland and Tyndall's experiments on combustion. Or 4. That a larger amount of ozone in the air of high elevations increases its oxidizing power.

Dr. Weber is inclined to attribute special importance to the dryness of the soil and air, to the presence of a large amount of ozone, and especially to the freeness of the air from foreign admixtures, mechanical, chemical, and organic, alluding to Pasteur's experiments on the

air of different elevations. The fact that most consumptive invalids in the Swiss health resorts feel better during winter than during summer, is likewise noticed, and the probable explanation is sought for in the greater intensity of the beneficial influences just mentioned during winter—viz., dryness of soil and air, large amount of ozone, comparative absence of foreign admixtures in the air. The author mentions that some of the influences at work in the high-level health resorts exist also in some of the low-level, especially maritime, health resorts; and he does not wish to disparage the latter, which have their own advantages, and only requests the Fellows of the Society to give an impartial trial to the elevated health resorts in proper cases, and points to the probability of the great advantage which would arise to the consumptive soldiers of the Indian army, if they were to be sent for a sufficient length of time to the high regions of the Himalayas, instead of being invalided and sent home.

He then shortly refers to the localities suitable for treatment of cases of incipient phthisis on high ground on the Cordilleras, in Switzerland, and in Germany, the number of which would soon be multiplied and provided with the necessary comforts, if the plan advocated were more frequently adopted.

The following points are summed up for consideration:—

1. That the elevated regions deserve greater attention in the management of consumptive tendencies and affections than they have hitherto received.

2. That they deserve this attention not only as summer, but even more so as winter, health resorts.

3. That without under-rating the value of maritime and other low-level health resorts, the elevated localities offer great advantages in cases of early consumption and tendency to consumption, in the disposition to catarrhal pneumonia, and the results of this disease, particularly the so-called tubercular (cheesy) deposits, and tubercular (pneumonic) infiltrations.

4. That in such cases the occurrence of fresh catarrhal and other acute intercurrent affections appears to be less frequent in high-level than in low-level health resorts.

5. That the tendency to absorption and fibrous transformation or cicatrization of deposits is promoted, and the tendency to the breaking down of tissues and formation of cavities is counteracted in elevated health resorts.

6. That the tendency to hæmoptysis is diminished, and not, as usually stated, increased, in elevated localities.

Dr. Weber concludes his paper with a tribute of gratitude to the late Dr. Archibald Smith, to whom he is indebted for much valuable information on medical climatology, especially with regard to elevated regions.

Dr. Symes Thompson said that the author had referred to various elevated health resorts, especially in Mexico and in Peru. He believed there were others in South Africa that were even more eligible. In the colony of Natal, the Drakenberg range attains a height of 10,000 feet, and is crowned by table-land, on which there is free movement of air. The climate is dry, the sun brilliant, and the heat not excessive. He was acquainted with the cases of two phthisical patients who had gone

to the Orange Free State, and in whom the results had been very satisfactory. He thought it would be hardly possible to determine, in any locality, the height at which phthisis did not exist; and he believed that the limit would have reference to the isothermal lines, as well as to the elevation. With reference to temperature, he rather feared the effect of extreme cold, and leaned towards a trial of elevated positions in the tropics. The long voyage to the Cape would often be extremely beneficial.

Dr. C. J. B. Williams expressed his sense of obligation to the author. He believed that the notion that cold was injurious to delicate people had taken deep root in the minds alike of the public and of the profession, and would not easily be removed. Our daily experience was that cold is hurtful, and moderate warmth useful. Statistics not at present in existence were needed for the determination of the question that had been raised. It would be necessary also to make a marked distinction between prevention and cure, between phthisis *in esse* and phthisis *in posse*. Although phthisis may not prevail in elevated regions, that does not prove that removal to them will cure the disease. Phthisical patients shrink from cold instinctively; and although to enforce out-door exercise is one of our best hygienic rules, the difficulty of enforcing it is that the phthisical feel that cold hurts them. He believed that great benefit might accrue in the way of prevention, but that in developed disease there would be much risk. Cold might easily be so applied as to derange the circulation, and to increase inflammatory action. In summer great benefit was often obtained by removal to a cooler region; but many patients went to Florida, or came to this country, from Canada, in order to avoid the rigour of the winter. The speaker concluded a lengthy address by a humorous description of the discomforts that might attend upon a winter residence in some of the places suggested.

Dr. Wilks observed that the chief question was whether the benefit might not be due to diminished barometric pressure, and, if so, he considered the fact to be of immense importance. At present the profession knew nothing about the comparative effects of exertion or of quiescence of the lungs in retarding or accelerating phthisis. At present all our systems are founded on giving more oxygen. One man tells a patient to expand his lungs; a second to keep them quiet; a third, to expand them in moderation. He had come to the conclusion, long ago suggested by Dr. Barlow, that disease was developed in proportion to the activity of the organ, and was arrested by keeping the lung quiet. If in an elevated position, where the barometric pressure was diminished, the patient used his lungs only half as much, and thence derived benefit, the fact would be the most important one in our knowledge, and would be worth all our remedies.

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## Art. 41.—*The Hypophosphites in Consumption.*

By J. F. Churchill, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

The following is Dr. Churchill's reply to Dr. Cotton's paper on the

hypophosphites which appeared in the last volume of the "Half-Yearly Abstract."

"Dr. Cotton's paper on the hypophosphites in the *Medical Times and Gazette* of Saturday, Nov. 14th, is a repetition of the line of argument published in the *Lancet* four years ago,* and completely demolished by me in 1864.† There is, however, one marked difference between his last experiments and his former ones. In 1863 Dr. Cotton had used my own hypophosphites as supplied by Mr. Swann, and the number of cases which improved was eight out of twelve, four of which, as I have shown, were cured. In the present instance the hypophosphites were supplied by the Brompton Hospital, and the proportion of cases benefited was only four out of twelve—that is, half the proportion obtained in 1863. Dr. Cotton argues now, as in 1863, that if a patient who was improved while taking the hypophosphites still continues to do so for a short time after they were omitted and carbonate of soda used instead, the continuation of the improvement is due to the carbonate—that this latter is as effective as the hypophosphite—and that, in fact, both were of no use.

"Why does not Dr. Cotton try carbonate of soda first and alone, and then compare the effect produced with that of the hypophosphites?

"Of course, in a comparison of this kind, the final result only is to be taken account of. True it is that the discoverer of the medical action of the hypophosphites has been at great pains and labour to show that the extent of organs involved, the stage of the disease, the many and varied complications attending its progress, the type of the attack, the possible existence of inflammatory adjuncts, together with the conditions of hereditariness, constitution, temperament, sex, age, and many others, involve a practical consequence of the highest value as to the mode, form, dose, and time of administering the remedies, while at the same time they lead to positive and almost mathematical data for the prognosis of each individual case.

"But Dr. Cotton does not descend to such minutiæ. Still, they will have to be taken into account. His statements are in direct opposition to those of many eminent members of the profession, amongst whom, to cite only a few of those at home, I would mention Drs. C. J. B. Williams and C. J. Williams (the latter one of the physicians at the Brompton Hospital, whose able paper on the nature and treatment of pulmonary consumption I have perused with much interest), and Dr. Thorowgood, physician to the City of London Hospital for Consumption. Independently of these individual testimonies, I commend to the timely meditation of my adversaries the following facts:—

"*Fact* 1.—Up to the year 1857 the hypophosphites were of no practical use, were known merely to a few chemists as samples in the laboratory, and to the medical profession were not known even by name.

"*Fact* 2.—In that same year they were brought before the world by me, as the specific remedy for consumption.

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* *Lancet*, April 25 and May 2, 1865.

† In my book, "De la Cause immédiate de la Phthisie Pulmonaire et des Maladies Tuberculeuses," p. 933. Paris. 1864.

"*Fact* 3.—Their use has spread over the whole civilized world—from Russia to Australia, and from India to Peru.

"*Fact* 4.—These salts, which were unknown ten years ago, are now in such general use that at the Paris Universal Exhibition last year they were to be seen in the show-cases of one-half of the exhibitors in the chemical department.

"*Fact* 5.—The last report of the Registrar-General shows that in England there has been a marked decrease in the number of deaths from consumption within the last ten years.

"It may be that even from Brompton a voice may come, like that of a skilful and honest Belgian physician, saying:—'Seven years ago I stated* that I had used Dr. Churchill's hypophosphite of soda without succeeding in a single case. Truth compels me to declare that I now prescribe the hypophosphites in my daily practice. I have observed several cases of complete recovery, and acknowledge that the hypophosphites undoubtedly possess the power of curing consumption.'"†

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## Art. 42.—*Inhalation of an Aqueous Solution of Carbolic Acid under the form of Spray for the Treatment of Phthisis.*

By William Marcet, M.D.

(*The Practitioner*, November, 1868.)

Dr. Marcet states, that considering the phenomena of chemical decomposition which must take place in the diseased portions of the pulmonary tissue in phthisis, owing to their low state of vitality, it occurred to him that if an antiseptic agent could be introduced into the lungs without interfering with the general functions of the body, the progress of the disease might be arrested or its mortality diminished. He therefore decided to try carbolic acid in the *form of spray*, as that most likely to cause the antiseptic agent to remain in contact with the diseased parts for some little time before its absorption in the blood.

Dr. Marcet relates seven cases treated by this method, and sums up the results of his experiments as follows:—

"1st. When a solution of from half a grain to one and a half grains of crystallized carbolic acid in one ounce of water is inhaled in the form of spray by a patient in the chronic first stage of phthisis before softening has taken place, and perhaps also when the process of softening is just commencing, or at the very outset of the second stage, relief is thereby obtained, and in some cases it appears to assist, with other means, in arresting the disease. After using the spray, the patients feel as if their breathing becomes easier and deeper; on moving about and going upstairs there is less dyspnœa; the stitch often felt, or the sudden check to the expansion of the chest in the act of breathing, is partly or entirely removed, cough is frequently relieved, and the expectoration may be considerably diminished. The absorption of any fluid in the smaller bronchi and pulmonary vesicles appears to be favoured, as shown

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* *Journal de Médecine de Bruxelles.*

† Dr. Holsbeck, "Le Scalpel," December, 1865.

by a lessening of the crepitation. I cannot confidently assert that I have known any plastic material in the lungs to be absorbed while the spray was being used, still I believe that in some of my cases the dulness on percussion has diminished, and even disappeared, partly from the effects of the carbolic acid spray. The treatment with the spray should not be adopted exclusively, but in addition to the use of counter-irritation, cod-liver oil, &c.

"2nd. In cases of acute second and third stages of phthisis, when the process of softening is going on rapidly, accompanied with a quick pulse, high temperature, debility, and emaciation, the inhalation of the carbolic acid spray, although it may afford temporary relief, appears objectionable, from its depressing influence over the action of the heart. I should also think it advisable to withhold the use of the spray in the first acute stage.

"3rd. A solution of carbolic acid, containing more than two grains to the ounce, should as a rule not be used, from its depressing action on the cardiac pulsations.

"From the above it will be seen that the spray should be employed with great caution; and if giddiness, faintness, trembling, with a permanently weakened pulse, or any increased irritation in the lungs, should result from the treatment, it ought to be at once discontinued.

"I am in the habit of using the spray as obtained from Clarke's Hand-ball Spray Producer; sometimes I have adopted Mathieu's Spray Producer, in which the liquid is projected against the inside of a tube and thus atomized. I have tried and given up the steam spray-producing apparatus on account of the difficulty of regulating its action. It appears to me sufficient to inhale the spray once a day, or once every two days, for a quarter of an hour or twenty minutes."

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## (c) CONCERNING THE CIRCULATORY SYSTEM.

### ART. 43.—*Atrophy of the Heart.*

By N. FINN, M.D.

(*Centralblatt f. d. Medicinisch. Wissenschaften*, August, 1868; and *American Journal of the Medical Sciences*, January.)

The following general results are presented by Dr. N. Finn, of the Pathologico-Anatom. Institute of St. Petersburg, as having been derived from the examination of one hundred hearts.

1. Simple atrophy is never developed as the only morbid condition. It is unattended by a morbid condition of the cardiac bloodvessels.

2. Neither the absolute or relative weight of the heart, thickness of its walls, nor their reduced circumference can be received as a certain indication of the presence of atrophy of the organ.

3. The brown atrophy of the heart, so called from a morbid change in the colouring matter of the muscular tissue, is a common accompaniment of all diseases attended with great emaciation.

4. Fatty degeneration of the heart (fatty infiltration) occurs chiefly in persons who have a large development of the subcutaneous adipose

tissue; the infiltration is often to such an extent as to prove troublesome.

5. Fatty degeneration of the heart occurs as an acute or a chronic affection. It is observed more frequently on the right than on the left side of the organ. In some cases the entire substance of the walls of the ventricle is affected, in others only a portion. In the chronic form there is always atheromatous degeneration of the cardiac blood-vessels. The *arcus senilis* is never met with in cases of fatty degeneration of the heart.

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## Art. 44.—*Diagnosis of Polypi of the Heart.*

By Benjamin W. Richardson, M.D., F.R.S.

(*Medical Times and Gazette*, November 21, 1868.)

Dr. B. W. Richardson gives a series of rules for the diagnosis of the occurrence of fibrinous deposits in the heart.

The symptoms are those of hæmorrhage without visible loss of blood. They are falling temperature; pallid or livid surface; feeble, irregular, or fluttering pulse; muscular prostration, and gasping respiration. These symptoms may depend on nervous lesion, hæmorrhage, flux, exudation, accumulation of fluid in the pericardium, or obstruction of respiration, so that it is necessary that all these be excluded. Dr. Richardson then proceeds to enumerate the physical evidences of the separation of fibrin:—

"The first of these is a peculiar dyspnœa. I allude now specially to cases in which the obstruction is on the right side. The dyspnœa is most distressing; it admits of no relief. If you ask where is the oppression, the finger is invariably pointed to the heart; if the patient can speak and explain his symptoms, he will describe that he has no difficulty in drawing in breath—that he has no pain, in the ordinary sense of the term, but yet he feels that he is sinking from inability to breathe. This dyspnœa lasts to the end, and there is often intense working of the alæ of the nose. The explanation of the dyspnœa is that the blood has been cut off from the air, so that, whatever efforts are made to breathe, there is no efficient result. I have already said that in the young obvious signs of emphysema attend the condition.

"There is dyspnœa, again, when the obstruction caused by fibrin is on the left side; but though severe in character, it is not of the same type as is described above. It is congestive rather in nature, and is referred by the sufferer to the chest generally, not specially to the heart.

"From the dyspnœa I turn next to the heart itself. I was at one time of opinion that few, if any, special physical signs of separation of fibrin exist as reliable signs. A larger experience has, to a considerable extent, modified and corrected that opinion, and indeed, during the last five years, I have detected not only fibrin within the heart, but the actual position of the mass in regard to the cavities, with extreme precision. The points I keep in mind are as follows:—If, with all the conditions likely to lead to separation, I find the action of the heart feeble and irregular, I make a careful examination with the stethoscope

for the two sounds of the heart on the right and on the left sides of the organ. Whatever theory we may adopt as to the cause of the heart's sounds, one thing is certain—that in health the tricuspid and mitral valves act together, that the pulmonary and aortic valves act together, and that the first and second sounds respectively are coincident with the simultaneous action of those valves which move together at the same time. When therefore, in any given case, the action of the valves on one side of the heart is impeded—when, for example, a mass of separated fibrin interferes with the valvular movements—then the sounds produced by the valves on the impeded side will be reduced or even lost altogether. It is possible to detect this. In a case I saw with Mr. Spencer Wells, where fibrin was being laid down on the right side of the heart, this line of diagnosis was so easy that he expressed to me it had only to be practised once to be recognised ever afterwards. Suppose, then, that the separation is on the right side of the heart, there will be feeble or deficient first and second sounds over the line of the right side of the organ—that is to say, in the line of the heart by the sternum. Turning, however, to the left side, both sounds of the heart will be heard.

"Supposing the separation of fibrin to be on the left side, these physical signs will be simply reversed—that is to say, the sounds of the organ will be faint or inaudible on the left, audible and distinct on the right side.

"One other distinctive point is worthy of attention. When the heart is blocked up with fibrin on the right side, its impulse is reduced, and its action is feeble throughout. When, on the other hand, the organ is blocked up on the left side, the action as a rule is for a long time irregular, tumultuous, struggling.

"In some rare cases there is separation of fibrin on both sides of the heart, in which the prominent symptoms are those of obstruction in the right cavities."

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## Art. 45.—*On a Case of Hæmorrhagic Pericarditis treated by Double Puncture of the Pericardium.**

By M. Henri Roger.

(*Gazette Hebdomadaire*, No. 50, 1868.)

Eug. Dance, a little girl, aged eleven years, was admitted into the Children's Hospital on October 21. The child was very intelligent, and until the last year had always been in excellent health. Though the child of a rheumatic father, she had never suffered from articular pains or been affected with chorea; she had never complained of palpitations or of dyspnœa. When at school she shared in the games of her companions, and her mother had never observed any loss of breath or cyanosis, even after violent exertion. About a year before her admission the little girl commenced to complain of stitching pains in the side; she was frequently subject to dyspnœa; palpitations of the heart came on

* Communicated to the Société Médicale des Hôpitaux, Nov. 13, 1868.

with changes of position and during walking. The general health was good, sleep natural, and the appetite preserved.

At the commencement of August the palpitations, the dyspnœa, and the pains in the side increased, and became associated with articular pains in the knees and shoulders. On August 14, the young patient had fever, nocturnal agitation, very great dyspnœa, and occasional attacks of suffocation. The practitioner in attendance recognised pericarditis, and treated the disease with pericardial blisters and frictions of cod-liver oil, and by administering ether internally. At the commencement of September, the child was affected with cough, and the face became swollen. At the end of the third week the patient was able to leave her bed for three or four hours in the day. This condition of things remained the same up to the middle of October: the child remained in bed during most part of the day, and was affected with cough, dyspnœa, and fever. On October 20 the fever was stronger, and it was then remarked that the left lower limb had become œdematous. On the following day the child was brought to the hospital.

The following was the condition of the patient on the day of admission: she was sitting up in her bed and supported by pillows; dyspnœa, deep and painful inspirations; the thorax raised by a general movement which affected even the head and neck; a cyanic tint in the eyelids, the eyes sunken, the globes injected, the lips of a violet colour, the expression of face resembling that presented in attacks of cardiac asthma; obstruction both in the peripheric and in the deep circulation; pulse small and hard (156 to 172 pulsations), regular; temperature moderate; hands cool; cough frequent.

On examination of the chest a very extensive and very marked fulness was found in the pericardial region. Along the extent of this fulness there was complete dulness from the first intercostal space as far as the seventh rib; transversely this dulness passed on the right side about one finger's breadth beyond the right edge of the sternum, and on the left reached a line carried vertically from the anterior border of the armpit. The cardiac beatings could not be felt; they were dull and far removed from the ear, but without other abnormal characters. No rubbing sound. In the thorax, signs were made out of a slight pleural effusion, and of some congestion of the lung on the right side, whilst on the left side the respiration was normal.

In the left lower limb there was œdema, with heat and pains excited by contact and movement; there was also tenderness along the course of the veins of this limb. The opposite limb was scarcely swollen. Nothing abnormal in the urine.

All the observed signs belonged indubitably to *a considerable effusion into the pericardium.* But the nature of the fluid, the cause of the effusion, and the pathological connexions between it and the symptoms observed on the side of the pulmonary and the peripheral circulation, were questions which could not be elucidated. There was, however, urgent necessity for the performance of paracentesis of the pericardium, an operation which had never been attempted on infants, and which M. Roger had previously rejected more than once, in spite of the indications which he had met with, and very probably to the great detriment of the little patients.

On the following morning, Oct. 23rd, the operation was performed in the following manner: The instrument used was a hydrocele trocar, furnished with a membranous valve; this, after a careful examination for the purpose of making sure the diagnosis, was thrust into the chest through the fifth intercostal space, at a point about one centimetre and a half from the left border of the sternum. The patient was placed on her left side, and in a half-sitting position on her bed. M. Roger, who stood on the left side of the girl, carried the instrument from below upwards, and from left to right, that is to say, towards the sternum. The trocar penetrated without difficulty, and without giving great pain to the child, for about a centimetre in depth, and it was then rendered manifest that the pointed extremity of the trocar could be manœuvred in a cavity full of fluid. The puncturing instrument was withdrawn. M. Roger was then much moved when he found flowing away, not serosity or pus, as was expected, but pure blood. As he had never before met with a case of hæmorrhagic pericarditis, the supposition that this affection existed here did not occur to him at first, and it was thought that the mammary vessels or the wall of the heart had been wounded. He was, however, soon reassured after finding that the canula was in a cavity full of fluid, that a stylet passed through this could be pushed on for some distance without meeting with resistance, that the blood flowed slowly and regularly, and finally that there was no threatening of syncope, and that the child was sensibly relieved. The quantity of blood which flowed away did not exceed 100 grammes, and notwithstanding the various manœuvres, no more than this could be obtained. The trocar was withdrawn, and a piece of diachylon applied over the puncture. Wine and nutriment were then given to the patient.

The operation was followed by very marked relief; the respiration was reduced in frequency and became less troublesome, and the physiognomy of the patient was less anxious. The precordial dulness and also the prominence was apparently diminished to a slight extent. In the afternoon the patient was calm; the pulse remained small and very frequent, 150; the dyspnœa was less intense in spite of the persistence of the pleural effusion and the congestion of the right lung. Finally, the beats of the heart were less than before the operation.

On the following day, the 24th, the improvement continued, but it was of short duration. On the 25th and 26th the return of the pericardial effusion was announced by physical signs. The respirations were 60, and the pulse 160, in the minute. The œdema of the leg and thigh became more painful, and a hard cord was felt, indicating obliteration of the principal veins of the limb.

On the 28th, five days after the operation, the phenomena had returned to their *summum* of intensity. The functional disturbances were very great, and the circulation had become more and more impeded. The swelling was considerable, and the dulness had increased in every direction, and now measured seventeen centimetres from above downwards, and twenty-one centimetres at least from side to side. Later in the day, M. Roger found the poor girl in so serious a condition that he decided upon attempting a second puncture in order to ward off pressing danger. The same trocar was then pushed into the chest one

centimetre without the seat of the first puncture, in the same intercostal space. When the trocar had been withdrawn, nothing flowed away through the canula. Still it could be distinctly felt that the instrument was in a cavity. A stylet introduced along some depth came against no obstacle; the canula was moved in all directions, but in vain, not a drop of fluid appeared at its orifice. At this time, during a forcible inspiration, some air was drawn in through the canula and penetrated into the pericardium without causing any immediate or ulterior accident. M. Roger then gently withdrew the canula, and a few drops of reddish serosity afterwards escaped from the wound.

The trocar was at once re-introduced and carried directly backwards, and at this time there was a full stream of sanguinolent, brownish and slightly fibrinous serosity. 500 *grammes* of this fluid were withdrawn. There was immediate relief.

The general venous congestion was diminished, and the cyanosis less marked; the face lost its puffiness, and the dyspnœa was less. The external swelling was reduced in a surprising manner, and the dulness was replaced in the sub-clavicular region by a clearer sound. The child, whose face was no longer expressive of anguish, was able to lie upon her back and upon the right side, positions which had previously been impossible.

On subsequent days, the improvement persisted and influenced all parts at once. The respiration fell to 44, and the pulse to 150 and to 132. On the 3rd and 4th of November the improvement was still more evident, and sleep, appetite, and good spirits were restored. On the 10th the state of patient was more and more satisfactory: pulse 120, respiration 40. There was no longer any prominence in the precordial region; the beats of the heart commenced to be felt on palpation; the systolic impulse, though feeble, was even visible to a slight extent. The child was able to take a few steps in the ward. In short, the patient could be regarded as *almost cured* of the considerable intrapericardial effusion which had directly threatened her existence.

Unfortunately, while the central circulation was restored to its freedom by the evacuation of the fluid compressing the heart, and while several of the morbid phenomena more or less directly associated with the effusion were diminished in intensity or had disappeared, the lesions of the pulmonary apparatus persisted with good and bad alternations which gave indications of the variations of the febrile condition, and of the persistence, although to lesser degree, of the dyspnœa and cyanosis.

On November 13th, twenty-one days after the first puncture and six days after the second, M. Roger found that there was still an absence of great effusion within the pericardium, and at the same time a presence of persistent pleural, pulmonary, and hepatic lesions upon which alone the remaining functional disorders were dependent.

The improvement in the condition of the patient was maintained until the 22nd of November, when there was every hope of a complete cure. On the following day, however, the pericardial effusion returned; the pulmonary lesions actively progressed, and, in addition, rheumatic pains attacked the neck and both elbows. The patient fell into a state

of intense somnolence and of *sub-delirium*, and on November 28th succumbed without convulsion after a slow agony.

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## Art. 46.—*Effects of Rowing upon the Circulation.*

By T. R. Fraser, M.D.

(*Quarterly Journal of Science*, January.)

Dr. Fraser, of Edinburgh, has been carefully examining the effects of rowing on the pulse by means of the sphygmograph. Dr. Fraser had the opportunity of recording the "sphygmograms" of a crew of healthy men on several occasions before leaving the boat-house, and immediately after return. The tracings show clearly that an extremely large quantity of blood is being circulated with great rapidity—a condition of the circulation which would be considered essential on other grounds for the continuance of prolonged and severe muscular exertion. It is obvious that in the great majority of functional and organic diseases of the vascular system such a condition could not possibly be maintained. The subjects of these diseases are therefore completely incapacitated from *violent* rowing exercise, and cannot be in a position to be injured by it. It is possible that the presence of incipient forms of disease of the vascular system may not altogether prevent such exercise from being undertaken; but Dr. Fraser believes that all such diseases may be detected by the use of the sphygmograph in time to prevent further mischief, the examination being made immediately before the boat is entered, and a few minutes after a moderate pull has been indulged in. The effects produced by rowing on the circulation do not differ from those of many other forms of muscular exercise.

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## Art. 47.—*On the Development of Cardiac Diseases in consequence of Bodily Exertions.*

By Dr. Thurn.

(*Wiener Medicinische Wochenschrift*, 1868; *Schmidt's Jahrbücher*, No. 2, 1869.)

Dr. Thurn directs attention to the frequency of the occurrence of cardiac diseases, especially hypertrophy, after muscular exertions. In consequence of severe exercise there is brought on in the first place fatigue of the muscular tissue of the heart, which occurs the more rapidly as the nutrition of the whole body is less suitable and less adequate, and as the muscular tissue of the organ is less readily excited by the nervous centres. In addition, the heart, especially the left ventricle, is not capable of offering due resistance to the increase in the pressure of blood caused by long continued activity; then follows dilatation of the left ventricle and subsequently hypertrophy. These processes were closely observed in a small number of soldiers examined by Dr. Thurn. Some individuals who at first were perfectly healthy pre-

sented after longer or shorter terms of service a considerable degree of hypertrophy of the left ventricle.

This gradual change is associated with the following symptoms: some soldiers complained at the first period of their drill, which took place in the summer, of palpitations and difficulty of breathing. Later, after a forced march or some other severe exertion, came on attacks characterized by mists before the eyes, whizzing noises in the ears, and weakness of the limbs. There was also a sensation of fulness in the chest, the temperature was considerably elevated, the heart's beats diffused, the tone obscure, and the pulse frequent, small, and soft. There were frequently fits of constant gaping. These attacks came to an end in the course of from five to fifteen minutes, but the heart's action remained excessive for hours and even days after. At times the symptoms were more severe. There was great dyspnœa, the features were expressive of great anguish; the skin was pale; the heart's beats weak and often irregular; and the pulse small, thready, and rapid. Soldiers who had frequently suffered from attacks of this kind, were finally affected with hypertrophy of the left ventricle.

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### (D) CONCERNING THE ALIMENTARY SYSTEM.

## ART. 48.—*Sea-Sickness Prevented or Cured by the Spinal Ice-bag.*

By JOHN CHAPMAN, M.D., M.R.C.P., Physician to the Farringdon Dispensary.

In his work on *Sea-Sickness*, Dr. Chapman states that, "the doctrine of the excito-motor or reflex functions of the spinal cord is a guide to the whole physiology of sickness," and that, "following it," he "was led to predict how to prevent, arrest, or control not only sea-sickness, but also how to remedy or palliate every kind of sickness, whatever may be its *primary* cause."

"I hold," he adds, "that the *proximate* cause of sea-sickness consists in an undue amount of blood in the nervous centres along the back, and especially in those segments of the spinal cord related to the stomach and the muscles concerned in vomiting. This condition is induced by the movement of the vessel, in, I believe, three ways:—1st, through the brain; 2nd, through the ligaments of the spinal cord; 3rd, through the abdominal and pelvic viscera.

"If by one or several causes the amount of blood circulating in the spinal cord be increased considerably beyond the normal amount, all the nerves emanating from it partake of the increased activity of the cord itself, and convey from the centre to the periphery of the nervous system an abnormally large number of exciting impulses. Those parts of the body which are subject to the will—the purely voluntary muscles—resist these impulses most easily; and only in extreme cases, therefore, are their ordinary functions deranged; but the involuntary or purely organic functions, being unsustained by cerebral influence under the direction of a dominating will, have their usually regular and tranquil

life easily disturbed and thrown into confusion by the unwonted number of exciting impulses transmitted to them from the preternaturally excited spinal cord."

Dr. Chapman also explains how the cold sweat, and the copious secretion of mucus often ejected from the stomach, are due to excessive stimulus from the spinal cord, which he affirms to be the efficient cause of glandular action; and maintains that those occasional phenomena of sea-sickness, cramps, or spasms—proceeding in rare instances to convulsions—are also due to hyperæmia of the cord. To a like condition of the sympathetic nervous centres, he refers the deadly pallor, the physical weakness, mental prostration, and indifference, which, in degrees ranging from mere *malaise* to such vital depression as to imperil life itself, form a part of the malady; and, in his elaborate monograph on the disease, he demonstrates, step by step, how the ship's movements cause an abnormally large afflux of blood in the nervous centres, and how, that condition having been induced, all the phenomena of sea-sickness are originated by it. "The inevitable conclusion," he says, from all the facts and arguments of his exposition of the pathology of sea-sickness, is that "the only scientific and really effective remedy for the disease must be one which has the power of lessening the amount of blood in the whole of the nervous centres along the back. This," he has proved, "can be effectually done by lowering the temperature of the spinal region by the application of ice. A formidable looking remedy," he admits, "but when it is judged of by the aid of experience, it ceases to terrify, and on the contrary, is found decidedly agreeable. Ice applied in bladders or by any of the ordinary methods would undoubtedly occasion great discomfort, would constrain the movements of the patient, compelling him to remain for the most part in one position, and in fact, could not be so applied as to insure success." But the application of ice along the spine, in the spinal ice-bag expressly devised by Dr. Chapman for the purpose, is liable to none of these objections. "It is necessary," he says, "*first*, that the ice be kept in contact with each region of the spine, the upper portion of the ice being prevented from falling down as the melting proceeds; *secondly*, that the application do not extend far on each side of the spinal cord, otherwise the patient will become cold; *thirdly*, that, having regard to the comfort of the patient, the mouth of the bag containing the ice be so effectually closed as to prevent the water from escaping as the ice melts; *fourthly*, that the mouth of the bag be as wide as the bag itself, in order that the bag may be easily and rapidly filled; and *fifthly*, that, without any inconvenience to the patient, facility should be afforded for giving escape to the air which accumulates in each compartment of the bag as the ice melts."

The following evidence of the soothing and agreeable effects of the ice is extracted from the reports of the *Experiments* published by Dr. Chapman in his pamphlet on *Sea-Sickness*, of the efficacy of the Spinal Ice-bag in curing that disease:—

Case 1.—"I think nearly every one was sick, and I, the usually most of all, not only not sick, but even well, feeling as if I were in a cradle, being rocked by the gentle hands of a tender nurse. . . . I don't know of course the effects of ice on a long-continued voyage, but I ven-

ture to believe that the feeling of perfect comfort would continue as long as the ice is kept on." CASE 2.—"She felt the cold to the back peculiarly grateful, but wished it more intense; the bag was therefore placed next the skin. This change delighted her." CASE 4.—"In about ten minutes after the vessel started she became violently sick, the muscular effort being so extreme as to cause her to say 'Oh, doctor, I think my heart is coming up!' I applied ice along the entire spine as quickly as possible, when she was *instantaneously* relieved, and then lay down upon the ice soothed and calm." CASE 6.—"About twenty minutes before reaching Boulogne, the ice in the bag was so nearly melted as to cause her to feel that the refreshing and sustaining influence of the cold was lessening; I therefore placed an additional bagful of ice outside her dress, and over the bag already supplied; this sufficed to restore the agreeable sensations she had hitherto enjoyed, and to continue them until she landed at Boulogne." CASE 9.—"During the second two hours (of the passage to Dieppe) she was fast asleep—lying on the ice. . . . She was particularly impressed with the relief afforded her by the ice, from the great suffering in the head which she had always experienced before when at sea." CASE 10.—"After lying upon the ice, both her sickness *and headache* ceased entirely." CASE 11.—"She was lying down very sick, and complained especially of an acute headache. She was laid on a bag of ice, the bag being next the skin. The head became quite free of pain in a few minutes. . . . Still lying on the ice, she fell asleep. In about half an hour she awoke quite well, and continued so." CASE 12.—"Having put on an ice-bag, I continued to feel ill about fifteen or twenty minutes, and then rapidly recovered: all nausea, sweating, and chilliness ceased; the colour returned to my face, as observed by the captain and some of the passengers; the troublesome threats of diarrhœa and uncomfortable sensations in the bowels passed away, and I continued quite well—really enjoying the remaining five hours of the passage to Dieppe. I wore the ice nearly the whole of the time." CASE 14.—"He said he felt the cold agreeable and refreshing; in a few minutes he said he felt better; before long he expressed his astonishment at finding all uncomfortable sensations, together with the nausea, wholly gone." CASE 15.—"The lady fears the sea so much as to be in a fright the whole time; this time she was not frightened at all after the ice had been applied." CASE 16.—"She soon became warm, and fell asleep with the ice on her back. She awoke very hungry, and quite well." CASE 17.—"She was so delighted, poor creature, she thanked me a thousand times. The ice made her quite well, and she went to sleep with it on her back."

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## ART. 49.—*Cure of Sea-Sickness.*

### By Dr. DWINELLE, of New York.

(*New York Medical Journal*, January.)

Dr. Dwinelle publishes an account of a method of treating sea-sickness, which he saw employed, by Dr. Le Coniat of the French navy, with remarkably successful results.

The skin over the stomach is moistened with a solution of sulphate of atropia, in the proportion of a grain to an ounce of water. A flat disc, forming a negative pole of an ordinary volta-electric apparatus, is applied over the pyloric end of the stomach. A sponge attached to the

positive pole is passed, for three or four minutes, from the cardiac towards the pyloric end, varied by being occasionally passed downwards. The application is not painful, and is generally followed by refreshing sleep.

In a stormy passage from Brest to the United States of America, Dr. Dwinelle, who suffered much from sea-sickness, was treated in this way by Dr. Le Coniat, with great benefit; and in every instance in which he saw the remedy applied great and immediate relief followed, and generally a complete cure.

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## Art. 50.—*Treatment of Dysentery.*

By C. A. Gordon, M.D., C.B., Deputy Inspector-General of Hospitals.

(*Medical Press and Circular*, March 3, 1869.)

Experience induces Dr. Gordon to believe that in cases not only of inflammatory dysentery, but in those of the hæmorrhagic type of the disease, enemata of hot water repeatedly administered are not only to be highly recommended as means of treatment, but that they afford an amount of relief to the patient that by no other means can be obtained. Dr. Gordon does not mean by this the repeated introduction of long enema tubes, such as were some years ago in common use in India, but the administration of lavements in the ordinary manner. Nor can he too strongly urge the great benefit and relief derivable from the very simple means of permitting patients affected with dysentery to sit upon commodes containing hot water. The vapour soothes the pain of straining in a manner that nothing else does, and thus no doubt becomes a powerful means of cure. Dr. Gordon recommends in cases of hæmorrhagic dysentery, that, where gallic acid fails to check the flux, a solution of alum with diluted sulphuric acid added, or of acetate of lead with acetic acid, should be tried.

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## Art. 51.—*A New Treatment for Chronic Dysentery.*

By E. Malcolm Morse, M.D., San Francisco.

(*California Medical Gazette*, September, 1868; and *New York Medical Journal*, November.)

In chronic simple uncomplicated dysentery, by which are meant those cases not kept up by organic disease of the heart, or phthisis pulmonalis, nor dependent on irremediable obstruction of the liver or spleen, Dr. Morse has met with marked success by throwing up into the rectum and colon from two to five pints of Labarraque's solution of chlorinated soda, largely diluted. The theory of the treatment is based on rational principles, and the remedy gives little or no pain, while experience has demonstrated that it is perfectly safe, no bad effects thus far having been observed. Chronic dysentery is a disease so usually intractable and obnoxious to treatment, that any plan which promises even mode-

rate success is worthy of trial. Of course, in the complicated cases above referred to, the primary treatment must be directed to the disease on which the dysentery is dependent. Dr. Morse says:—

"In order to get the patient into a proper condition to derive the most benefit from these injections, I am in the habit of pursuing the following method: I regulate his diet carefully, of course, and keep him in a recumbent position in order to assist the return of the blood from the engorged mesenteric veins, and those smaller tributaries which are distributed along the large intestine. This state of engorgement prevents the ulcers from healing, and renders each ulcer an outlet from which, in blood and serum, the stream of life ebbs out like water from the tubs of the daughters of Danaus. At daybreak on every alternate or fourth day I give a mild cathartic or aperient, in order to clear out the alimentary canal. The ordinary contents of the intestine produce great irritation when it is in this engorged and hyperæsthetic condition; and it is better to get rid of the fæces about the same time, instead of letting them run in driblets over the raw surface every hour or two. After the cathartic or aperient has acted sufficiently, I inject very slowly from two to four pints of Labarraque's solution of chloride of soda, diluted, into the large intestine. In this way it becomes a topical application. The right strength for the first enema is twenty parts of water to one of Labarraque's solution. I inject as much of this mixture as he can be made to retain. Two or three pints will generally be enough. Sometimes as much as five pints may be given. Each enema should be made a little stronger, until the patient says that he can feel it smart or burn. When this happens the solution is of the proper strength. The patient should be on his right side, or on his knees with his head low down, while these enemas are being administered. Occasionally it is necessary for him to change his position several times in order that the wash may reach every point where it is needed. Should there be much tenesmus after the injection has been passed, I give an enema of the tinct. opii, or an opium suppository. These applications of the chloride of soda should generally be made once a day. Occasionally it is necessary to give them twice a day, and sometimes, on account of the sensitiveness of the ulcers as they begin to heal, it is better to leave them off for several days, or give weaker solutions. The next indication in the treatment, after cleaning out the alimentary canal and washing the ulcers with the medicated solution, is to keep the bowels quiet, so that the ulcers may remain clean and heal up under the topical application. In suggesting the means of accomplishing this desideratum I am getting upon very debateable ground. The old proverb, '*tot homines tot sententiones*,' must certainly have been intended for physicians. Each one of us has his own way of using the arms with which we combat disease. I generally give large doses of subnitrate of bismuth three times a day; repeated opiate enemas and suppositories, in order not to disorder the stomach; Dover's powders, repeated if necessary; charcoal, or the mineral and vegetable astringents; the antacids, leeches, and fomentations; taking great care to *keep up* the effect of the medicines by giving them every hour or two. If one drug fails I try another, or give a combination of several of them, in order to have as few stools as possible passing over the ulcerated surfaces while they are healing."

(E) CONCERNING THE GENITO-URINARY SYSTEM.

## ART. 52.—*Early Signs of Nephritic Irritation.*

By OWEN REES, M.D., F.R.S.

(*Guy's Hospital Reports*, Third Series, vol. xiv. ; and *Dublin Quarterly Journal*, May.)

Dr. Owen Rees has found that a valuable indication in the early stages of kidney disease may be derived from the presence in the urine of *blood-extractives*, which may be recognised before the appearance of albumen in that fluid. The escape of the extractives shows that a constant and important drain is going on from the blood, and is to be regarded as a warning of approaching albuminuria. The *blood-extractives* may be detected by the addition of tincture of galls to the urine, which immediately precipitates the extractive matters. After five or ten minutes the earthy and potash salts will be thrown down by the spirit contained in the tincture, so that it is necessary to remember that the reaction produced by the extractives occurs immediately after the addition of the tincture.

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## ART. 53.—*Diabetes Mellitus successfully Treated by Opium without Restriction of Diet.*

By FREDK. W. PAVY, M.D., F.R.S.

(*British Medical Journal*, January 9.)

Dr. Pavy reported to the Clinical Society of London the following two cases.

A female, aged sixty-eight, was admitted under his care into Guy's Hospital, on May 26th, 1868. Her complaint had been recognised two years, and at one time she had been passing an exceedingly large quantity of urine, and had been gradually losing flesh and strength. Upon admission into the hospital, the quantity of urine was about five pints a day, and was highly charged with sugar. She was placed upon the ordinary middle diet of the hospital, which included bread, potatoes, and beer. She was also ordered four ounces of brandy, and two bottles of soda-water daily. This diet was continued as long as she remained in the hospital. Upon the day of admission, a draught was ordered, consisting of ten grains of bicarbonate of potash, half a drachm of aromatic spirit of ammonia, and an ounce of infusion of calumba ; to be taken three times a day. This draught was, by misunderstanding, continued throughout the patient's stay in hospital. Opium was given in the form of a pill, three times a day, and the dose was gradually increased. A daily examination of the urine was made ; and the results were copied into tables. At first, the quantity of urine was 100 ounces, the specific gravity 1040, the quantity of sugar per ounce thirty-two and three quarter grains, and the quantity of sugar for the twenty-four hours, 3275 grains. The first effect of the opium was to diminish notably the amount of urine. The degree of saturation with sugar remained for a time about the same, but through the fall in the amount of urine, the

quantity of sugar for the twenty-four hours was diminished. Within three weeks the quantity of opium administered was raised to ten and a half grains daily. It was then suddenly discontinued on account of a greater degree of drowsiness than was desirable being produced; but in a few days was recommenced, and this time, being more gradually increased, was borne without producing any disturbance. On July 28th, the quantity of urine was twenty-five ounces daily, the specific gravity 1027, and no sugar was passed. On the three subsequent days there was a little sugar, but it afterwards disappeared, and remained absent as long as she continued in the hospital, viz., until Oct. 28th. When the sugar disappeared, the patient was taking nine grains of opium daily. It was afterwards further increased to twelve grains, and then gradually diminished until Oct. 17th, when all was taken off, the patient during the remaining time taking no medicine, and passing no sugar. The last daily record was forty ounces of urine in the twenty-four hours; specific gravity, 1025; and no sugar. With the improvement in the state of the urine there was a corresponding improvement in the health and strength of the patient, who ultimately expressed herself as feeling perfectly well in every respect. Upon being discharged, she lived precisely as she was in the habit of doing before she became affected, and had come to the hospital several times; the urine being, on each occasion, found devoid of sugar. Dr. Pavy brought to the Society some urine passed on that day, which, upon being tested with the cupro-potassic solution, was seen to be free from sugar. Dr. Pavy had given opium and morphia in other cases; and the result strikingly exemplified the controlling influence of the drug over the disease. One was a middle-aged man, who was suffering from a severe form of the complaint. By restriction in diet, the quantity of sugar had been reduced to about 1200 and 1500 grains a day. Opium was then administered alone, in gradually increasing doses up to eighteen grains daily, when the urine was found to have become devoid of sugar. The opium was then suddenly discontinued, and an ounce of camphor mixture given three times a day. The urine, when the opium was discontinued, amounted to thirty ounces daily; its specific gravity was 1025; and it contained no sugar. On the following day it contained a trace of sugar; the third day, 140 grains were passed; the fourth day, 120 grains; the fifth day, 340 grains; the sixth day, 800 grains; the seventh day, 402 grains; the eighth day, 1060 grains; the ninth day, 680 grains; the tenth day, 612 grains; the eleventh day, 720 grains; the twelfth day, 1712 grains; the thirteenth day, 1162 grains; and the fourteenth day, 1440 grains—when the quantity of urine amounted to sixty ounces for the twenty-four hours, and its specific gravity was 1038. The opium was now resumed, and the daily dose increased until, as before, it amounted to eighteen grains. The urine was now reduced in quantity to thirty-five ounces per diem; its specific gravity was 1033, and the sugar passed amounted to 368 grains. On the following day the urine was forty ounces in quantity, and the amount of sugar passed 250 grains. On the third day, quantity of urine thirty-five ounces, with only a trace of sugar present. On the fourth day, quantity of urine forty ounces; specific gravity 1021, and no sugar. After the period mentioned, a little sugar was again passed, and it was found that the

patient was not adhering strictly to the diet that had been ordered. Dr. Pavy had seen him since his discharge from the hospital. On returning home, he discontinued all medicine, and paid no attention to diet, and, as was to be anticipated, his urine was again charged with sugar.—The other case was that of a patient who was passing, upon a mixed diet, from eight to ten pints of urine a day, containing about 8000 and 9000 grains of sugar. By a restricted diet and an alkaline mixture, the urine was reduced to four and five pints daily, and the sugar to about 1500 grains. The mixture was discontinued, and hydrochlorate of morphia given, at first in half-grain doses three times a day. The dose was increased, until in about two months nine grains were given daily. The urine fluctuated now between three and four pints a day; and the specific gravity had descended from 1028 and 1030 to 1018 and 1020. The urine also had become devoid of sugar. M'Gregor, as far back as 1837, had published in the *London Medical Gazette*, a record of two cases in which opium had been given in large doses, with the effect of producing for a time a marked palliation of the disease. M'Gregor, in one of his cases, had increased the quantity of opium until it reached ninety grains daily. By modern practitioners, opium had also been generally looked upon as exerting a favourable influence in the disease; but he was not aware that direct evidence of its controlling influence such as was supplied by his communication had been previously placed upon record. There was still, he thought, much to be learnt about its extent of power in different cases. The belief was, from the case which formed the basis of his communication, and other experience that he had had, that it would be found sufficient in many instances, amongst elderly subjects, where the disease was observed to assume its mildest form, to check by itself the elimination of sugar. In young and middle-aged subjects, however, where the disease as a rule assumed a much more severe character, his experience was that, to obtain a similar effect, the restricted diet must be conjoined.

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## Art. 54.—*Cure of Albuminuria by Iodide of Calcium.*

### By M. Baudon.

(*Bull. Gén. de Thérap.*, November, 1868; and *The Practitioner*, February.)

A number of cases of albuminuria in which the potassium salt failed, and the calcium salt gave good results, are put on record by M. Baudon. We cannot give the details of these cases, but may briefly refer to one or two of them. One of them, that of a woman, aged thirty-six, with albuminous urine, and other characteristic symptoms, was first put on the iodide of potassium in the ordinary doses, with quinia wine and good animal diet. This produced very unsatisfactory results. The iodide of calcium was then tried. At first it was given in doses of 40 centigrammes (about gr. vj) a day, in three doses, taken in half a glass of fresh water. In the course of a fortnight the dose was increased to 1½ grammes (gr. xxv) in the twenty-four hours. Ultimately the progress under this treatment was so satisfactory that the dose was increased to 3 grammes a day in combination with iodide of iron and

quinia wine. At the end of thirty-nine days' treatment, in the course of which the dose of the calcium salt was raised to 4 grammes a day, the patient had completely recovered. M. Baudon regards this as a crucial experiment. But in the presence of our knowledge of the advantage of quinia and iron in certain hæmaturias, it may be asked to what was the result due, the iron and quinia, or the iodide of calcium?

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## Art. 55.—*Etiological Relationship of Bright's Disease of the Kidneys and Scarlet Fever.*

(*Centralblatt f. d. Medicin. Wissenschaften*, November, 1868; and *American Journal of the Medical Sciences*, April.)

Dr. Steiner examines this question in the *Jahrb. f. Kinderheilk.*, 1868. He rejects entirely, as without foundation, the doctrine which teaches that the *nephritis scarlatinosa* is either an accidental complication or a sequel of scarlet fever; but in like manner as the angina, so common a symptom of the disease, is produced by the same morbific cause to which is due the eruption on the surface; that is, a localization of the same pathological process upon the kidneys—in the one case, as upon the throat and skin in the others. Post-mortem examination and testing of the urine, from an early period in the disease, show that the kidneys suffer from the commencement of the attack, and not merely from the period of desquamation. The nephritic affection is usually of a purely catarrhal character, and occasionally of so mild a grade as not to be detected during the lifetime of the patient. On dissection after death, however, its existence is shown by the swollen condition of the epithelium of the tubuli uriniferi. When, besides the presence of albumen in the urine, we find cylindrical casts and blood, the nephritis has assumed the croupose form. According to Dr. S. this is the result of a purely mechanical cause, the accumulation of epithelial *débris*, namely, in the tubuli of the kidneys. There results from this a stasis of blood in the parenchyma of the kidneys, and finally effusion. The influence of cold experienced by the scarlatinous patient during the period of desquamation, in the production of nephritis, Dr. S. believes to be much overrated. The croupose form of nephritis often sets in, as such, very suddenly, and may proceed attended by abnormal urination without the slightest indication of dropsical effusion; while, on the other hand, anasarcous swelling may be present without any disease of the kidneys. Nothnagel has observed many such cases.

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## Art. 56.—*Peroxide of Hydrogen in Diabetes.*

By S. J. Bayfield, M.R.C.S.

(*British Medical Journal*, October 17, 1868.)

Mr. S. J. Bayfield has published a case of diabetes cured by peroxide of hydrogen. He commenced with half-drachm doses of the ethereal essence of the peroxide, gradually increasing it to three drachms a day.

He also materially relaxed the patient's diet, substituting more agreeable articles for those he did not like. After ten weeks' steady perseverance, with occasional fluctuation, the patient quite recovered, and has kept well for several weeks.

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### (F) CONCERNING THE CUTANEOUS SYSTEM.

### ART. 57.—*The Diagnosis of Eczema.*

BY ERASMUS WILSON, F.R.S.

(*Journal of Cutaneous Medicine*, April.)

"With regard to the diagnosis of eczema," Mr. Wilson writes, "it is a superficial and chronic inflammation of the skin, attended with a rugged and desquamating state of the epidermis, and with the exudation, or a tendency to exudation, of an ichorous fluid; the ichorous fluid being sometimes detained in minute vesicular elevations of the epidermis, sometimes free, and sometimes infiltrated in the tissues of the skin. When all these signs are present together, and especially the exudation and the broken epidermis, eczema stands self-confessed; but we have also, frequently, to foresee that an erythematous eruption will, at a future period, become exudative, or that a state of desquamation has, at an earlier period, passed through an exudative stage. In a word, any doubt as to diagnosis can only arise in the instance of the erythematous and papulous forms of the affection, and sometimes, but more rarely, in the squamous.

"Wherever a doubt does exist, we must fall back on the other known phenomena of eczema. Thus, if there be suspicion of an eczematous diathesis; if the patient have any present indication of eczema in the known haunts of that affection, as in the joints, behind the ears, in the head; if he have previously suffered from eczema in any shape; these may be taken as corroborative proofs in aid of your diagnosis. Again, another source of verification is presented in the negative phenomena of the disease. Eczema, it will be remembered, is slow in its progress. It is more superficial than erysipelas, but deeper than erythema. It is unattended with swelling in the beginning, and is rarely marked by much swelling throughout its course. It is pruritic from the first, and the pruritus increases with its advance. It is rarely developed with the uniformity of an exanthem. It is apt to be patchy in one place and papulous in another, and each day contributes to relieve us from our doubt. Moreover, it is important to remember that, unlike the exanthemata, eczema has no premonitory symptoms, and no concurrent febrile manifestations.

"On the other hand, eczema has sufficiently close resemblances to other affections to make it necessary that you should use your best judgment in the inquiry. An erythematous, or a papulous eczema, may resemble a variola, a scarlatina, a rubeola, a roseola, an urticaria, an erysipelas, an erythema, a syphiloderma, or a lepra; but if you are well grounded in the natural history of the disease, your doubts will soon vanish, and you will learn to decide without hesitation. There is a moment when a herpes closely resembles an eczema, but in the fully-

developed form of either it would be difficult to make a mistake between them. The same may be said of bullous affections, in their broken state, when they expose to view an inflamed derma, exuding a copious ichorous discharge; and a like remark applies to the circumscribed, squamous, and hypertrophous blotches of eczema, in relation to the well-known discs of lepra Græcorum."

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## Art. 58.—*Treatment of Eczema.*

By G. Borlase Childs, F.R.C.S.

(*The Lancet*, February 20.)

Mr. Childs recommends a solution of nitrate of silver, ten grains to the ounce of distilled water. This should be applied every second day by the aid of a camel-hair brush; the parts afterwards to be covered with dry lint and oil-silk, and well bandaged from the toes to the knee. Of course the secretions must be attended to. But should the affection be complicated with any disease of the chest or kidneys, it had better be left alone, as under those circumstances Mr. Childs looks upon eczema as a safety-valve, to repress which would only exaggerate the *origo mali*, and probably shorten life.

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## Art. 59.—*Treatment of Eczema.*

By W. Cory, M.D.

(*The Lancet*, February 20.)

Dr. Cory recommends the application of Schmier's soap, to be continued as long as it produces a pretty strong reaction of the morbid surface; when the reaction ceases, an inunction with cod-liver oil will generally complete the cure. He has also found that the dyspepsia which usually accompanies the disease is more readily relieved by the internal administration of trisnitrate of bismuth.

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## Art. 60.—*Notes on the Treatment of Favus.*

By Henry Samuel Purdon, M.D., Physician Belfast Dispensary for Diseases of the Skin.

(*Medical Press and Circular*, February 3.)

The method of treatment pursued at the Glasgow Dispensary for Skin Diseases consists in removing the crusts by poulticing, then epilation is commenced, and into the part from which the hairs have been extracted, a solution of the bichloride of mercury, two grains to the ounce, is firmly rubbed in, after which a little sweet-oil is applied. The epilation may have to be performed more than once. The great point in the treatment of favus seems to be excluding the air from the affected part, which can best be done by the application of oil or ointment; some physicians prefer cod-liver oil. As a local application, creasote has the property

of preventing the spores from germinating, and is used by many, as also ointments of white precipitate of mercury, dilute citrine, or iodide of sulphur. Neligan employed constitutional remedies and local applications, the former "used with the intention of correcting or altering that vitiated condition of the system generally, to the existence of which is due the development of the morbid growth in a congenial soil, and the latter to remove the diseased mass constituted by the peculiar vegetable parasite, and to prevent its production." Internally he administered iodine and arsenic, in strumous children, cod-liver oil, whilst locally—when the disease occurred on the head—the hairs were cut short, poultices applied to remove the crusts, and the head washed with a strong carbonate of potash lotion, afterwards carbonate of potash ointment applied, over which an oil-skin cap was worn. In two or three days iodide of lead ointment being substituted.

In one case Dr. Purdon tried a lotion of sulphurous acid, one ounce to eight of water, but it did not succeed, the head having to be epilated and treated with the bichloride of mercury lotion. Dr. Purdon has observed tinea circinata and favus existing together. In treating the former affection he now uses a solution of chromic acid, a drachm to the ounce, one application of which is generally sufficient. Patients affected with vegetable parasitic diseases require a good nutritious diet, such remedies as quinine, cod-liver oil, and syrup of the iodide of iron being prescribed.

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## Art. 61.—*Treatment of Psoriasis by Balsam of Copaiba.*

By Frederick Simms, M.B., M.R.C.P.

(*British Medical Journal*, March 13.)

Dr. Simms's plan is to give from ten to twenty minims of the drug with liquor potassæ and mucilage, and gradually to increase the dose; with young subjects, and especially with fresh cases, the copaiba rash soon appears, and, as it were, carries off the old disease with it. These patients, Dr. Simms says, mend rapidly, two or three weeks find them nearly well; but old subjects, and those with relapses, are harder to cure, the characteristic rash is slow in coming out, and sometimes they recover without having it at all. In one case only, that of a young girl at St. Louis, had he seen any trouble arise; in this case erysipelas complicated the affair, but was transitory, and without influence upon the case.

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## Art. 62.—*On Cutaneous Symptoms in Pyæmia.*

(*Gazette Hebdomadaire*, No. 46, 1868.)

The author of an anonymous article on anthrax reports a case of pyæmia in which he observed during life a special acute eruption extended over most of the surface of the body, and manifesting various forms, but with the general aspect of a circumscribed exanthem. The following case had previously enlightened him on the significance of this phenomenon as a diagnostic sign of pyæmia:—

In the course of the year 1867, a man about fifty years of age was admitted into the Lariboisière with stricture of the upper portion of the œsophagus. In spite of emaciation and exhaustion, natural consequences of insufficient nutrition, his general health was fair. Several unsuccessful attempts were made to overcome the obstacle, when finally a small silver sound, which was flexible and terminated by an olive-shaped swelling of some millimetres, was passed. On the following day the patient complained of a dull pain at the lower part of the neck on the left side, and deglutition then became painful and more difficult. Some amelioration followed the application of leeches, but the pain again returned, and an intense rigor came on during the following day. Leeches were again applied, but the fever continued and was accompanied by thirst, general depression, change of countenance, and grave presentiments. Four days after the commencement of these symptoms, bright red spots appeared on the dorsal surface of the wrist and around the olecranon processes and patellæ; those spots were rounded, distinctly circumscribed, about one centimetre in diameter, disappearing incompletely under pressure, and causing neither pain nor pruritus. On the following day the spots were increased in size, and by joining most of them together had formed around the olecranon and patella an almost complete ring with irregular contours. Other similar spots afterwards made their appearance upon the dorsal aspect of the forearm, on the inner surface of the left thigh, &c. A finger of the left hand suddenly became swollen and extremely sensitive to pressure, and the integument marked by a diffused rosy colour; analogous phenomena over one of the malleoli and on the internal aspect of the great toe on the right side confirmed in a decisive manner the diagnosis of pyæmia. The patient died four days after the commencement of the eruption, which extended to several parts of the limbs, always keeping to the same surface, and at times taking on the appearance of acute lymphangitis. At the autopsy were found numerous metastatic abscesses and purulent collections in the finger, great toe, and over the malleolus. There was very irregular contraction of the œsophagus; no trace of false passage or laceration could be found; a purulent deposit was in contact with the left part of the tube a little below the seat of stricture, but did not communicate with the œsophageal canal.

The cutaneous eruption in this case presented a striking analogy with that presented in the case mentioned in the clinical report on anthrax. The wrists were first attacked, and the eruption by its colour, limitation, and seat reminded the observer of psoriasis.

It seems to the author of this article impossible to deny a close relation between this limited exanthem and pyæmia, and he has been led to believe that the lesion consists not only in an active injection of the dermis, but likewise in a true production of leucocytes, as has been made out by M. Velpeau in erysipelas.

Allusion is made to another cutaneous manifestation which has also been observed in a case of putrid infection or slow septicæmia terminating in acute pyæmia.

A young man was admitted into the Lariboisière for an abscess in the left iliac fossa rapidly formed in connexion with a lesion of the lumbar vertebræ, which was characterized as a sub-periosteal vertebral

abscess. The purulent collection was opened, drained, and daily injected with tincture of iodine. For some time there was a prospect of cure, but in spite of all the efforts made, hectic fever came on with all the indications of a progressive septicæmia. At last symptoms of pyæmia made their appearance and resulted in death. At the autopsy were found metastatic abscesses and signs of phlebitis of the external and iliac and of the pelvic veins on the affected side. Forty-eight hours before death and after a rigor more violent than those preceding, the following appearances were made out:—1st, On different parts of the body were bluish circumscribed spots very similar to the livid eruption observed in some severe fevers; 2ndly, A zone of bullæ, which were developed in the course of a few hours on the affected side. This zone commenced at the umbilicus and extended in a half circle along the abdominal wall, running parallel to the crest of the ilium in its course to the spine. The bullæ were of a considerable size, and varied from five to eight millimetres in diameter; some were surrounded by a zone of inflammation. The majority of these bullæ had fallen away on the evening before death. After removing the epidermis, one could see a black staining which involved nearly the whole thickness of the dermis, and was due to mortification of the skin.

From these facts it is concluded—1st, That in cases of pyæmia the skin becomes the seat of various exanthematous eruptions; 2ndly, That this symptom is rare, if one may judge so from the silence of authors; 3rdly, That it is the *avant-courier* of approaching death.

In a foot-note the author states that he has seen an eruption of purpura in a patient who succumbed to pyæmia after amputation at the thigh. It is also stated that M. Gallard has often observed, in cases of puerperal peritonitis, transient red patches occupying different parts of the face.

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## Art. 63.—*On Lupus Erythematosus.*

### By Erasmus Wilson, F.R.S.

(*Journal of Cutaneous Medicine*, January, 1869.)

"Lupus erythematosus," Mr. Wilson writes, "is a nutritive disease of the skin, a dystrophic affection, occurring on the face, the head, and the extremities. It manifests itself in the form of patches of small size and irregular figure, and presents three principal stages, erythematous, encrusted, and atrophic. It evinces some variety also having reference to the region which it occupies; and is essentially chronic in its nature, lasting generally for a number of years.

"It is a rare affection as compared with other diseases of the skin; occurring only 56 times in 9000 cases; that is, somewhat more than six in the thousand, or little more than one-half per cent.

"Its most common seat is the nose, next the cheeks, particularly in the neighbourhood of the eyelids, then the ears, next the scalp, and then the fingers and the toes. Very generally it is met with in two or three of these situations at the same time, and sometimes in all. On the nose it may be situated either on the bridge or on its tip. When

it shows itself on the latter, it frequently begins like a chilblain; is red and somewhat swollen, and of a dull red or purplish or livid hue. On the bridge of the nose it begins as a patch of irregular outline, of a dull red or purplish colour, sometimes a little raised, but generally flat. This is the hyperæmiated or *erythematous stage.* In a short time the activity of the centre of the patch subsides, it becomes depressed, and then is coated over with a rough scale or thin crust, composed of exuviated epidermis and dried sebaceous secretion. This is the *encrusted stage;* the crust or adherent scale being of a dirty yellow or greyish colour; while the border of the patch maintains its prominence and vascular activity. After awhile the depression of the surface is more decided, the crust exfoliates, and the affected skin is found to be attenuated and resembling a cicatrix; this is the third or *atrophic stage.*

"It may be observed that the erythematous and the encrusted stage are not unfrequently blended, and then the first intimation that the patient has of disease of the skin is a thin concreted crust apparently composed of dry sebaceous matter, more or less thin or thick, and surrounded by a narrow and irregular margin of a dull red colour. Another character, which is so remarkable as to be almost pathognomonic of this disease, is the conspicuous appearance of the apertures of the follicles; the pores are large and dilated, distended with epithelial exuviæ of a yellowish or a greyish tint of colour, and often the dry and horny exuviæ stand up prominently from the mouths of the follicles. It is obvious from this examination of the morbid patch, that the apertures of the follicles are thrown into relief less by the prominence of desiccated sebaceous matter with which they are filled, than by the absorption of the papillary layer of the skin of the interfollicular space; in fact, that the process of atrophy has already begun, and has made evident progress. And at a later period, not only the pores of the follicles are found in relief, but also the chaplet of sebiparous glands which open near their outlet. In some cases, we have seen a kind of delicate dissection of the subpapillary layer of the skin, exhibiting the pores, the sebiparous glands encircling their neck, and a coarse vascular network occupying the intervening spaces.

"On the cheeks and on the face the patches appear as dingy red spots, of irregular outline, coated over the greater part of their area with a dry, rough, horny concretion, forming a thin crust, studded with the gaping mouths of loaded follicles, and bordered by a narrow margin, which fades into the surrounding skin. The objective properties of the patches are dryness, exhaustion of function, attenuation, atrophy, suggesting the idea of a part that is parched up or burnt.

"On the ears, the tendency prevails to the more speedy passage of the disease from the erythematous to the atrophic stage; and encrustation is less common, probably from the smaller size of the follicles and of the sebiparous apparatus. Very frequently the integument is so attenuated that it is stretched like parchment over the cartilage; and the lobulus auris, with its contained fat and cellular structure, has disappeared. So also when the disease attacks the tip of the nose, the prominences and figure of the cartilages are rendered obtrusively conspicuous.

"On the scalp, the disease has very frequently reached the atrophic stage before it is observed; at this time there may be present a thin desquamating crust and complete baldness. The integument is so thin as scarcely to afford a covering to the bone; and the fall of the hair has ensued upon obliteration of the hair-follicles. As on other parts, the follicles are loaded with dry epithelial and sebaceous exuviæ, and the baldness is irreparable.

"On the fingers and hands, as in fact upon the tip of the nose and lobule of the ears, the manifestation of the disease takes place by hyperæmiated blotches which resemble chilblains; and sometimes, when they occur in the winter season, are really chilblains. But although they most frequently occur in the cold weather, they may also make their appearance in the warmer seasons of the year. Compared with chilblains, they are more sluggish in their pathological changes, less influenced by temperature, and less itchy or painful; and their tendency is not to sloughing and ulceration, but to interstitial absorption and atrophy. Being chilblain-like in their character, these blotches are circular in figure, and somewhat prominent, of a crimson or purplish, or livid colour. Subsequently they are depressed in the centre, or cupped, and at the same time the epidermis becomes hard, horny, and opaque; and at a later period the affected skin undergoes the same atrophic change which has already been noticed in the case of the patches on the face and head. It is to be observed, however, as there are fewer and smaller hair-follicles and sebiparous glands upon the fingers, there are no dilated pores, and no sebaceous concretion.

"As an affection due to deficient nutritive power, and consequently deficient vital power, the development of the disease at the periphery and at the extremities of the body is an occurrence that might be predicted. Hence the affection of the nose, the ears, the scalp, and also of the fingers and toes. In the instance of the cheeks, irritability may be present as an additional factor. Then we find this disease in individuals of weakly constitution, in females more commonly than in males, and especially in persons who complain habitually of cold hands and cold feet. The stages of the disease are everywhere the same, the hyperæmic or progressive; the epithelial and stearrhœal, or stationary; and the atrophic, or retrogressive. The more or less prominence of the affection, and its greater or less encrustation, even its more or less complete atrophy, are due, in the main, to situation: the swelling is greatest on the fingers; the encrustation, on the bridge of the nose and face, and the atrophy on the ears and scalp. The reason is obvious: in the first of these situations the cellular tissue is most abundant and lax; in the second, the sebaceous glands are most active; and in the third, the circulation is weakest.

"Looking to the statistics of lupus erythematosus, we find it, as might be inferred from the preceding remarks, more common in the sensitive constitution of the female than in the more sturdy organism of the male; the figures in the two instances being 41 for the former, and 15 for the latter.

"The age of origin of the affection ranges between twelve and forty-eight; but in one instance it made its first appearance as late as seventy-one. The most common period of origin is that between twenty and thirty,

in which there occur 22; and secondly, between thirty and forty, which gives 13; consequently, between the ages of twenty and forty, the number is 35. Of the remaining 21, 10 are referrible to the period between ten and twenty, and 10 to that between forty and fifty; the twenty-first being the exceptional case, first developed at the age of seventy-one.

"The chronic nature and lengthened duration of the affection are shown by the fact that in one instance the disease had been in existence for 45 years; 6 had lasted between 10 and 13 years; 17 between 5 and 10 years; and 24 between 1 year and 5; the remaining 8 only, having existed for less than one year when application was made for treatment.

"The peripheral character of the disease is shown by reference to the parts principally affected; for example, the nose, lips, eyelids, cheeks, forehead, scalp, fingers, and toes. In 21 instances these parts were separately affected, but in all the rest there was a combination of two or more of these regions. The disease appeared upon the nose only in 8 cases; on the cheeks only, in 6, three of these occupying the region of the whisker; on the eyelids, solely, it occurred twice; on the scalp only, also twice; on the fingers, twice; and on the upper lip, once. The combinations of several regions were as follows:—Nose and eyelids, 4; nose and cheek, 3; nose and fingers, 3; nose, cheek, and eyelids, 2; nose, cheek, and forehead, 2; nose, cheek, and scalp, 2; nose, cheek, and fingers, 2; nose and scalp, 2; and of the following, one each, namely—nose, cheeks, and ears; nose, cheeks, lips, and forehead; nose, lip, and scalp; nose and chin; nose and ears; nose, ears, and fingers; nose, ears, scalp, and toes; nose and forehead; cheek and temple; cheek and ears; cheek, ears, and fingers; cheek, ears, scalp, and fingers; cheek and scalp; eyelids, neck, and fingers; and upper lip, eyelids, scalp, and neck.

"It is shown by these figures, that in the 56 cases before us, the disease attacked the nose 36 times; the cheek 24 times; the fingers, including the toes, 12 times; the scalp 11 times; the eyelids 10 times; the ears 7 times; and upper lip 4 times.

"The subjective symptoms of lupus erythematosus are very trifling, sometimes indeed so slight as scarcely to attract the patient's attention; they are, for the most part, pruritus, tickling, tingling, pricking or piercing, and heat; sometimes a burning sensation; and in the instance of the ears and fingers, burning and throbbing. It is rare that we find it necessary to prescribe for these sensations.

"The cause of lupus erythematosus, as of the whole family of dystrophic affections, is a *constitutional nutritive debility*, which is sometimes *congenital* and sometimes *acquired*, or accidental. It is congenital in persons derived from a phthisical, strumous, or debilitated stock, and also in those whose nutritive power is congenitally weak, but without hereditary predisposition. It is acquired or accidental in such as have experienced the exhausting operation of unbalanced physiological or pathological processes; as in the instance of deficient nourishment, over-rapid growth, advanced age, mental strain, parturition; also in disordered assimilation, syphilis, and other forms of constitutional disease. Of the cases which follow, the disease was traceable in six instances to a phthisical stock; four were coupled with struma; two were associated with another congenital dystrophic affection, namely,

xeroderma, or epidermic ichthyosis; and three were referrible to a congenital nervous debility. While among the predisposing causes of acquired constitutional debility, we find, ungenial climate, deficient or improper food, over-growth, old age, mental disquietude, parturition, assimilative disorder, syphilis, rheumatism, cholera, and erysipelas. Of the exciting causes, the commonest is cold, and then heat. In one instance the disease would seem to have been excited by erysipelas, and in another the exciting cause was a scratch with a bramble.

"Not least in importance in our studies of disease is the question of *prognosis*. Is lupus erythematosus curable? And to this question our experience enables us to answer in the affirmative; it is chronic, it is tedious, undoubtedly; from its very nature it must be so, because it takes its origin in a deficiency of vital force; but it is apt to get well spontaneously; and upon this fact we place our reliance of effecting a cure. There are some cases, in truth, which, from the impossibility of restoring the nutritive power, are unquestionably hopeless; but on the whole we have every reason to expect, knowing the cause, by judicious means to combat and to vanquish the inherent weakness on which the disease depends. On the other hand, however much lupus erythematosus may affect comfort, it touches not life; although it points to a necessity for medical interference and for the application of such means as conduce to the improvement of the general health. In a few words, lupus erythematosus is in general curable, but not easily curable, not without an effort and without a sound knowledge of the weak points of his opponent, on the part of the practitioner. The cure may weary the patient and weary the physician: both may be taught by it to take up their burden, and strive forward again.

"As all *treatment* of disease should be founded on a rational comprehension of its cause, whether positive or presumed, we may take the idea conveyed by the words 'constitutional nutritive debility' as the aim of our treatment in lupus erythematosus; and to this end we may adapt our remedies, both internal and external; and whether hygienic, nutritive, or tonic. Our patients should be provided with good air, proper means of exercise, a congenial climate, cheerful and elevating pursuits and associations, sufficient clothing, and a generous and nutritive diet. To aid this intention we may have recourse to nutritive medicines; for example, cod-liver oil, simple and phosphoretted, and arsenic in appropriate doses, and singly or in combination with iron. Moreover, as a cutaneous stimulant sulphur may in some instances be useful; and especially the sulphuretted mineral waters, such as those of Harrogate and Aix-la-Chapelle. And further, the list of predisposing causes will suggest other remedies, whether for the regulation of secretions, the stimulation of appetite, the improvement of the blood, or the strengthening of the nerves. In fact, whatever contributes to the perfection of the general health will invigorate the nutritive power, and whatever tends to invigorate the nutritive power will conduce to a healthy nutrition of the skin, and consequently to cure. Our favourite tonics are citrate of iron and quinine; nitrohydrochloric acid, with tincture of orange-peel, of calumba, of gentian, and the liquor strychniæ; sulphuric acid with cinchona; or phosphoric acid with a bitter tincture, or with that of the hydrochlorate of iron.

"The local remedies the best suited to restore power and health to the skin are the cold bath, frictions and ablutions with some kind of tar soap, or carbolic soap, or even sulphur soap; and the judicious application of stimulant remedies: sometimes we have succeeded in dispersing a patch of lupus erythematosus by pencilling with liquor plumbi; but our favourite remedies are carbolic acid, the liquor hydrargyri nitratis acidus, and a solution of equal parts of potassa fusa and water. We have also used, but with less success, the compound tincture of iodine and iodized glycerine. Sometimes we have obtained good results from the unguentum sulphuris iodidi, and sometimes from the unguentum hydrargyri nitratis; but in general strong stimulation by a liquid application, and repeated after each desquamation of the crust or of the epidermis, has usually answered best. One of our patients, who had been under the care of Hebra, was treated with strong acetic acid; useful for a time but not permanently effective."

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## Art. 64.—*A Note on the Use of Sulphur in Itch.*

By Tilbury Fox, M.D. Lond., Physician to the Skin Department, Charing Cross Hospital.

(*The Lancet*, March 6.)

"In treating scabies," Dr. Fox writes, "we should use the specific remedy in recent cases as freely as we like to the interdigits and wrists *only*, and apply *soothing remedies to the general surface;* that the sulphur should be in small quantity, and that sulphur baths should be discarded." Dr. Fox employs half a drachm to an ounce of lard, with three drops of creasote, and five grains of ammonio-chloride of mercury, a little olive oil, and a drop or two of essential oil. In chronic itch, however, this form of specific remedy may be applied to all eruptions of discrete character. Dr. Fox prefers the three days' treatment of scabies, keeping on the same linen, and then having a thorough cleansing with soap and a clean change. Less after consequences follow this than more heroic and rapid modes of cure.

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## Art. 65.—*Method of applying Nitrate of Silver in Erysipelatous Inflammation.*

By John Higginbottom, F.R.S., of Nottingham.

(*The Practitioner*, January.)

Mr. Higginbottom, to whom the profession is indebted for the knowledge of the value of nitrate of silver in external inflammations, complains that the directions given by him have been incorrectly copied by writers on the subject. His mode of applying the remedy is as follows:—

"The affected part should be well washed with soap and water, then with water alone, to remove every particle of soap, as the soap would decompose the nitrate of silver; then to be wiped dry with a soft towel. *The concentrated solution of four scruples of the nitrate of silver to four*

*drachms of distilled water is then to be applied two or three times on the inflamed surface and beyond it, on the healthy skin, to the extent of two or three inches.* The solution may be applied with a small piece of clean linen, attached to the end of a short stick; the linen to be renewed at every subsequent application. As the solution of nitrate of silver is colourless, it is necessary to pass a little linen, just moistened, over every part where it has been used, in order to be equally diffused, so that no part be left untouched.

"In about twelve hours it will be seen whether the solution has been well applied. If any inflamed part be unaffected, the solution must be immediately reapplied. Sometimes, even after the most decided application of the nitrate of silver, the inflammation may spread; but is then generally much less severe, and is eventually checked by repeated application. It is desirable to visit the patient every twelve hours, until the inflammation is subdued.

"By these means we have complete control over the disease.

"For the successful application of the nitrate of silver, the ordinary brittle stick, either solid or in solution, must be used. Not the 'lunar caustic points perfectly tough,' nor the crystals and cake used for photographic purposes."

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## Art. 66.—*On the application of Oil of Turpentine for Parasitic Affections of the Skin, and for Traumatic Erysipelas.*

By Professors K. von Erlach and E. Lücke.

(*Berliner klinische Wochenschrift*, 44, 45, 1868; and *Schmidt's Jahrbücher*, No. 1, 1869.)

For the destruction of the parasites acting as the cause of many affections of the skin, Kuchenmeister recommended, by preference, alcohol—an agent which immediately arrests the development of all algoid formations. Various experiments have, however, convinced Professor Erlach that alcohol does not extend its action to the fungous bodies vegetating within the hair bulbs. Pityriasis versicolor may indeed be rapidly removed by alcohol, but the tincture of iodine acts more surely than pure alcohol on fungi existing under the surface of the skin in the hair follicles, as in herpes tonsurans. Still, in order for this latter agent to work effectually, it is necessary to shave the whole head, and to apply the tincture repeatedly until the epidermis has been renewed for three or four times, and even then the cure often fails, which in the most favourable cases of herpes tonsurans never takes place before the hundredth day. Professor Erlach states that in cutaneous affections of this kind, oil of turpentine applied with a brush acts more rapidly and with greater certainty. A case of herpes tonsurans thus treated was cured in fifty days, and several cases of mentagra were cured within a week in the same manner.

Since, according to modern views, traumatic erysipelas, as well as septicæmia, is enumerated among the infectious disorders, and as it very often withstands the ordinary methods of treatment, Professor Lücke has endeavoured to destroy the infecting agent by means of some deeply penetrating fluid, and with this view brushes over the affected

places with oil of turpentine. The following case is selected as an illustration of this method of treatment :—

"Compound fracture of femur; subsequent removal of a sequestrum. On the following evening, vomiting, headache; the temperature 40°·0; a very intense erysipelatous redness about the wound, and extending for some distance beyond; inguinal glands swollen and tender. Application of oil of turpentine. On the morning of the following day, the temperature 38°·6; erysipelatous rash somewhat paler; in the evening, temperature 38°. On the following day the redness had disappeared, and the temperature was normal."

Similar treatment was practised in eight other cases with equally good results; in all the erysipelas ran its course in two or three days. Professor Lücke had previously observed many serious cases of this affection. The most remarkable fact, next to the speedy removal of the erysipelatous eruption, was the rapid fall of the temperature on the local application of the oil of turpentine, which remained constant after the commencement of this treatment. This fall was the more surely brought about the more energetically the agent was applied, and was particularly well marked after the oil had been rubbed in. This fall in temperature even occurred when the erysipelas was somewhat far advanced. The reason of this fall is, according to Professor Lücke, to be sought for in the local destruction of the septic material upon which the fever primarily depends.

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## Art. 67.—*On the Pathological Anatomy of Erysipelas.*

By R. Volkmann and F. Stendener.

(*Centralblatt für die Medicinischen Wissenschaften*, 36, 1868; *Gazette Hebdomadaire*, No. 8, 1869.)

The following local changes were observed in three cases of erysipelas :—The first apparent phenomenon is a natural injection; one is struck by the dilatation of the vessels of the superior layers of the skin, the papillæ being completely filled with prominent capillary loops. In the superior layers of the skin about the cutaneous vessels, are already observable a great number of small cells, which present the appearance of white blood corpuscles, or pus globules (leucocytes), and are often placed in distinct series by the sides of each vessel; these bodies extend, either isolated or collected together, into the tissue of the skin. The exudation remains less abundant in the superior layers of the dermis. In the deep-seated parts it becomes excessive, and the vessels are enclosed by thick layers of leucocytes; finally, large patches are found, which are entirely formed by the accumulation of these bodies. These masses sometimes present a fusiform appearance, which might lead one to conjecture a proliferation of the corpuscles of the connective tissue, but in their centre one meets with the section of a vessel. The corpuscles of the connective tissue do not present any essential changes. These alterations are not localized in the dermis, and attain their greatest intensity in subcutaneous and adipose cellular tissue. The vessels in these tissues are completely enclosed within masses of yellow cells, and instead of prolongations of connective tissue enveloping groups of

adipose vesicles, one observes but a kind of network composed of leucocytes isolating the fatty cells.

As soon as the skin becomes pale, towards the second or third day, the disappearance of the extravasated elements commences, especially in the subcutaneous cellular tissue; one observes there nothing more than considerable quantities of cells undergoing rapid transformation into very fine granular bodies; some hours later nothing more can be found than finely granular filaments.

In the more superficial layers of the skin one observes also that the lymphatics are filled with granular cells of a similar nature, either pressed together or commencing to accumulate near these vessels. But a small portion of the elements which form the infiltration may be taken up afresh by the lymphatic vessels, the majority die, and the most striking point is the rapidity of this process. Towards the third or fourth day no trace of the morbid processes is any longer to be distinguished in the parts previously affected.

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## Art. 68.—*On the Action of Arsenic on the Human System, especially in reference to its use in Diseases of the Skin.*

By Thomas Hunt, F.R.C.S., Surgeon to the Western Dispensary for Diseases of the Skin.

(*Journal of Cutaneous Medicine*, January.)

In answer to the question—How is arsenic to be used?—Mr. Hunt writes:—1st, it should be given in divided doses—three doses in twenty-four hours, simply to avoid an unnecessarily large dose. 2nd, it should be diluted with pure water, or if the case require the influence of antimony, the vinum antimonii, say thirty-five minims, may be combined with five minims of the liquor arsenicalis, and this may be taken diluted three times a day. 3rd, this dose should be taken with, or immediately *after*, a meal, in order, that being mixed with the patient's food, it may find a ready entrance into the blood, and that the bare possibility of its irritating the mucous membrane of the stomach or bowels may be avoided. Not that there is any danger of mischief, but the patient, aware that he is taking arsenic, may thus be disabused of all fanciful or imaginary suffering of this kind. 4th, it should be clearly understood that arsenic acts very slowly, and therefore it is best to begin with an average dose, say five minims of Fowler's solution, and this should be increased, not day by day, as was the practice thirty years ago, but two, three, or four weeks should be allowed to elapse before any necessity can exist for augmenting the dose. If during this time there should be set up an active or severe inflammation of the tunica conjunctiva in *both* eyes, the lower eyelid being swollen and showing on its lining membrane a horizontal streak of inflammation, then the medicine is not to be abandoned in a panic, but the dose may be reduced to four minims, and in a week or ten days the conjunctiva will be less inflamed; or, if not, a lotion of the liquor plumbi acetatis dilutus, or of cold black tea, will generally suffice to relieve the investments of the globe of the eye,

and even to remove the slight degree of ecchymosis which is sometimes seen in the sclerotic tunic. But during this week, if the patient has been properly prepared for the course, the disease of the skin will show some amendment; it will be shorn of its strength, and from this time the cure will be easy enough, although it may take many weeks, or even months, to effect it entirely. If it should be requisite that the course be continued for several months, the soles of the feet, and less frequently the palms of the hands, become more or less inflamed or rough, and very rarely slight vesications occur on the feet. These inconveniences must be borne patiently: they will only exist during the course. Sometimes also, after a protracted course, the skin of those parts of the body which are covered by the dress assumes a dirt-brown, unwashed appearance, and under a lens presents fine scales. This also is an ephemeral appearance, somewhat annoying to females of delicate complexion, but not for a moment to be compared with the afflictive form of disease which requires arsenical treatment. Other symptoms are sometimes complained of; such as restless nights, hiccough, pains in the stomach and bowels, depression of spirits, and general nervousness. But all these, except the first, are mere mental impressions. They seldom or never occur in dispensary practice, when the patient knows nothing of the medicine he is taking. And, on the other hand, it is far more common for the patient to feel better and stronger under the course. The feet and legs become warmer in those cases in which the extremities are habitually cold; and nothing is more common than for patients to say, after a long course of this medicine, that *they have never felt so well in their lives.*

Hitherto we have supposed that the dose has been rather in excess. But it often happens that the reverse is the case, and that after a month's treatment the medicine shows no sign, and the disease remains *in statu quo.* It will now be necessary to increase the dose slightly, and perhaps repeatedly, not every day or every week, but about once in a month, nothing doubting that the effects will sooner or later appear.

Meanwhile it must not be forgotten that we are not dealing with a mere *machine.* The health of the patient must be closely watched, and the secretions carefully sustained. Above all, the bowels must not be allowed to act sluggishly. In many cases a full dose of calomel and compound colocynth pill will be required two or three times a week; and these doses are sometimes essential to the cure. If the legs, or feet, or abdomen become puffy or œdematous, the urine being scant and turbid, the case will not go on well until we have roused the kidneys to vigorous action by full doses of spiritus ætheris nitrici and acetate of potash, largely diluted with water, and accompanied with draughts of some aqueous fluid several times a day. This treatment is seldom required, but when it *is* necessary it must be adopted, or the case will become unmanageable.

In other cases there will be present an atonic diathesis, with pale upper lip or amenorrhœa. Here we must combine iron with the arsenic, taking care that our chemistry is not at fault. We may mix the vinum ferri with Fowler's solution, or the tinct. ferri sesquichloridi may be combined with the liquor arsenici chloridi, taking care that

the national Pharmacopœia does not lead us into error, of which there is no small danger.*

It is never necessary, and rarely expedient, to exhibit triple compounds of arsenic, such as Donovan's solution, a very active but most unmanageable preparation. Neither mercury nor iodine should ever be given in combination with arsenic. Each of these three energetic and useful medicines has its value. Each acts in a different way, a way of its own, and each has its own peculiar power over disease. But mix them, and this distinctive power is buried, not blended. According to the constitution of the patient, one or another of these remedies has the upper hand, and you have no means of ascertaining if each or either is defective or excessive in the dose, nor could you alter it if you had.

Arsenic will be found, in a smaller or larger dose, to agree with every individual, provided it be properly prepared, and taken with the utmost punctuality. Young children bear it very well, and girls about the age of puberty generally bear and require larger doses than adults of either sex. A child of one year old will require about half the dose proper for an adult. Some patients lose flesh under the course; others fatten; but for the most part there is no very sensible change in this respect, nor indeed in any other, except that, mixed with iron, arsenic is about the best remedy we have for anæmic amenorrhœa and chlorosis.

Fowler's solution is slightly objectionable. And it is so on two grounds. First, if it be kept very long on the shelves of the druggist, the bottle in which it is contained becomes lined with a very delicate film of metallic arsenic. This must render the strength of the solution uncertain. The remedy is, to use the solution freshly prepared. There is another objection to this solution, namely, the red lavender tincture, which for some foolish reason is ordered to be mixed with it, often becomes stale and nauseous, and the patient says the arsenic makes him sick! The obvious remedy is to use the solution without the lavender.

Nor are the chlorides altogether without objection. The distilled water (in which the arsenious acid is boiled with the hydrochloric acid) almost always contains the germs of a microscopic vegetation, which in warm weather becomes developed, and the solution loses its clearness, the microscope revealing the filaments and spores of a beautiful plant, which is rarely to be found in distilled water in which arsenic is not dissolved. The remedy is to keep the solution in a cool place, or so to

* The liquor arsenici chloridi of the London Pharmacopœia (De Valangin's solution) is little more than one-third of the strength of Fowler's solution (liq. arsenicalis). And this preparation (liq. arsen. chloridi) was entirely omitted in the first edition of the national Pharmacopœia. But in the second edition the medicine was restored in a new formula, the liquor arsenici hydrochloricus, which is nearly thrice the strength of the old liq. arsen. chloridi! We do firmly believe that this change was not intended for any mischievous purpose; but if such *had* been the motive, nothing could have been more likely to have led to serious mistakes than this change. A prescription for any compound of arsenic and hydrochloric acid is no longer to be trusted to a druggist who is either ignorant or careless in the slightest degree.

exclude the distilled water from the atmosphere, as that the floating spores cannot be received by it. We are not aware that the solution is less effective for this cause, but patients like to see it clear. A very few drops of the tincture of perchloride of iron will keep it clear in almost any weather.

In speaking of the most suitable diet for patients suffering under chronic disease of the skin, Mr. Hunt says the artificial and unvarying rules of diet which some practitioners hold out to patients indiscriminately who are the subjects of skin disease are absolutely ridiculous. There are three conditions of system which require three very different kinds of diet, and one and the same precept applies to all of them. Let the patient take just what he likes best, and as much of it as is most agreeable, and if this does not suit his case, we will challenge the whole College of Physicians to give him better advice than that contained in his own natural instincts.

1. This rule may be observed when he is in good health. 2. When his disease is inflammatory, a cooling, unstimulating diet is best, and his own instinct will teach him this. 3. When he is anæmic and feeble, he will crave naturally a generous diet and stimulants, and they will do him good. Of course, we do not mean to encourage drunkenness or gluttony, or what is almost as bad, the assumption of a dietetic science above the teachings of nature. Some *few* subjects of inflammatory affections of the skin we have known to prefer a restricted vegetable diet wholly without stimulants; and we have found that they cannot be cured unless they follow this instinct. But in *all* cases, except in those of intemperate habits, the patient knows far better than the doctor what is best for him; and it is well for mankind that it is so.

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## Art. 69.—*On Cutaneous Angioneuroses.*

By Albert Eulenberg, Privatdocent in Berlin. Translated by W. D. Moore, M.D. Dub. et Cantab., M.R.I.A., L.K.Q.C.P.I.

(*Medical Press and Circular*, May 5.)

In an abstract of the above paper, given by Dr. Thilesen, in the *Norsk Magazin for Lægevidenskaben*, Christiania, xxii. Bind, 5 Hefte, the following *résumé* of the author's remarks, with reference to the essence and pathogenesis of herpes zoster, is given at page 330.

1. Zoster is a vaso-motor neurosis in the superficial cutaneous layers, an "*exanthematous angioneurosis.*"

2. The vessels (the arteries, in severe cases also the veins) in the affected portion of the skin are during the eruption in a state of dilatation, relaxation; their tonic innervation is diminished, or for the time interrupted.

3. The spinal ganglia are not, as Bärensprung assumes, the sole starting point of the affection, as no vaso-motor nerves take their origin from them, or are even contained in them, as moreover, zoster by no means occupies the whole seat of distribution of a spinal nerve, but follows at one time the anterior, at another the posterior branches, at

another only some of them, or even the extreme ramifications of the latter.

4. Zoster has rather, so far as the trunk and extremities are concerned, its starting point in the vaso-motor nerve fibres, which partly pass from the sympathetic to the spinal nerves of the far side of the vertebral column, partly perhaps emerge directly from the spinal cord with the posterior and anterior roots.

5. Zoster facialis originates in the vaso-motor nerve fibres, which accompany the facialis and trigeminus, and with respect to the first proceed perhaps from the vagus, with respect to the latter from the sympathetic.

6. Zoster presents in many cases, especially in the face, the form of a purely primary vaso-motor neurosis. In the cases where disturbances of sensibility attend zoster either as premonitory or concomitant phenomena, the possibility of a reflex origin cannot be excluded. The centre for reflex action is then the ganglia of the sympathetic. In these cases we have to do either with a *reflex irritation* with consecutive relaxation by peripherally increased irritation of the sensory nerves, or with a *reflex paralysis* in consequence of peripherally lowered irritability.

7. The herpes occurring in acute febrile diseases, especially in the face, probably owes its origin to the action of the fever-exciting cause on the vaso-motor nerve system itself, since as the result of the primary tetanic contraction of the small peripheral arteries, a persistent paralytic dilatation of the same occurs.

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## Art. 70.—*Notes on Dermatalgia.*

By H. S. Purdon, M.D., L.R.C.P.E., Physician Belfast Dispensary for Diseases of the Skin.

(*Journal of Cutaneous Medicine*, April.)

Dermatalgia, or neuralgia of the skin, Dr. Purdon states, is often associated with hysteria, when it is observed most frequently affecting the left side of the body, as manifested by increased sensibility to touch. This complaint may also arise from exposure to draughts of cold air, rheumatism, or derangement of the uterine functions. Dermatalgia is generally limited to one spot; but in the hysterical variety, met with in females, the pain and increased sensibility to touch may be erratic, thus invading a large extent of surface.

In the variety of dermatalgia attributed to rheumatism, the affection is usually limited, in patches, which may become erythematous. The pain is often associated with vascular disturbance, such as partial congestion; and is sometimes periodic, corresponding to the distribution of a cutaneous nerve, probably due to an inflammatory condition. When the pain is fixed and permanent, the sufferings of the patient are sometimes very severe. This variety, according to Damon,* is due to a "morbid condition of the sensory apparatus of the skin, and which not only appears to be increased in dermatalgia, but there seems to be

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* *On Neuroses of the Skin*, p. 8.

a veritable multiplication in the 'points endowed with tactile sensibility.'"* Dermatalgia is frequently observed attacking the head, or other parts covered with hair, such sites being favourite situations. In the hysterical variety the affection is said to be due to "spinal irritation;" and, according to Trousseau,† in neuralgia there is always tenderness, on pressure, over the spinous processes of the vertebræ, accompanied by cutaneous hyperæsthesia at the point of exit of the nerve-trunks.

According to Marcè,‡ severe and long-continued dermatalgia is one of the first symptoms of commencing myelitis. Dr. Purdon has observed this affection, neuralgia of the skin, confined to the hands, in a case of cerebro-spinal meningitis.

In some cases the bromide of potassium is useful; and oxide of zinc, in doses of two grains, thrice daily, is occasionally beneficial, especially in the hysterical variety. To relieve the pain, and procure sleep at night, the solution of the bimeconate of morphia is an admirable preparation, and locally either belladonna, or aconite and opium liniment, may be used.

Trousseau,§ writing on cutaneous hyperæsthesia, informs us that the acuteness of the sensation varies according to the individual conditions, difficult to appreciate. It is dull in some, in others exalted. In those regions where the nerve-trunk, from being deep-seated, becomes superficial, as in the case of the external popliteal, and the internal saphenous nerves, the track of the painful nerve may be followed with the tip of the finger, as far as its cutaneous expansion. In the case of intercostal nerves the pain spreads over a considerable area, instead of being circumscribed. These nerves, at their exit, break up immediately into numerous branches.

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## Art. 71.—*The Treatment of Ichthyosis.*

### By M. Lailler.

(*Annales de Dermatologie*, No. II., 1869; and *The Practitioner*, March.)

In a very able paper on the varieties and treatment of this affection, M. Lailler fully confirms M. Demarquay's opinion of the great value of glycerine in these affections. Glycerine has, he says, many advantages over the fatty preparations; it does not stain, it is readily miscible with water, and hence, when required, can be easily removed by simply washing. Instead of drying when exposed to the air on the skin, it absorbs the atmospheric vapour and keeps the tissue supple and moist; it does not evaporate, its removal being effected by rubbing against clothing, &c.; it does not turn sour when of good quality; it produces no irritation in squamous affections. The mode of treatment is this:—The patient is well washed with soap and water three times a week in order to remove the epidermic scales; he is then anointed with a mix-

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* *See* Axenfeld *Des Nervoses*, Paris, 1864, p. 235.

† *Clinical Medicine*, translated by Dr. V. Bazire, vol. ii. p. 481.

‡ *Des Altérations de la Sensibilité*, p. 14.

§ *Clinical Medicine*, translated by Dr. V. Bazire, vol. ii. 481.

ture of the glycerinum of starch of the codex, with from 10 to 100 parts of laurel-water. Internal treatment in this affection is, according to the author, absolutely useless.

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### Art. 72.—*On the Oleum Sabinæ in Alopecia Pityrodes.*

By Dr. Pincus.

(*Virchow's Archiv*, xliii., 1868; *Schmidt's Jahrbücher*, No. 1, 1869.)

Dr. Pincus has made experiments with certain agents in order to determine which might be fitted for modifying the growth of the hair, and thence derived the following results:—

1. Certain substances, as arsenic, veratria, cantharides, and sabina, when applied to the hair render it brittle. Strong spirit does not act in this way; and carbonate of soda also, when applied in an aqueous solution, leaves the hair unaffected.

2. Inflammation of the hair follicle and of the surrounding parts results in a slower growth of hair. This slow growth continues for several months after inflammation has ceased, and the hair formed during this period does not possess its normal consistency. An increase of the typical duration of the life of hair seems to follow together with the slowness of growth.

3. Oleum sabinæ exerts a peculiar action upon the growth of hair: the rapidity of this is lessened, and the typical duration of its life is prolonged.

Dr. Pincus used the oleum sabinæ (from 5 to 30 drops to 1 ounce of spirit) on eleven patients suffering from alopecia pityrodes in its second stage. The oil was rubbed into the head at night, and also applied, by means of a saturated compress covered by oil-skin. Under this treatment the daily loss of hair was considerably diminished, and this good result persisted for two or three weeks after the cessation of the treatment. The most satisfactory results, next to those from oleum sabinæ, were observed after the application of tannin to hairy regions,—four scruples of tannin to one ounce of lard. The favourable action of this astringent persisted from four to eight days after the application had been discontinued. To sabina it may be objected that its intolerable smell will often necessitate the discontinuance of its use, that it renders the hair dry and fragile, and that the skin and hair, especially with blondes, become discoloured. In the first stage of alopecia carbonate of soda acts as a very efficacious remedy when applied as a weak solution, which can be rubbed into the scalp without producing redness. This agent also causes a disagreeable discoloration of the hair.

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## SECT. III.—FORENSIC MEDICINE.

### Art. 73.—*An Antidote to Snake-Poison.*

(*Pharmaceutical Journal*, March.)

We have received from a correspondent, recently arrived in this country from Australia, an account of Professor Halford's experiments

on animals, with the view of discovering an agent which should avert the poisonous effects of the bites of venomous snakes. The subject has recently attracted a large amount of attention in that country, owing to the Professor having employed his remedy—a solution of ammonia injected into the veins—with success in the case of a man exhibiting all the symptoms of snake-poisoning in a dangerous degree. We take our account from the *Lancet* of Jan. 30th. A man was bitten by a venomous snake, which he had taken into his hands, supposing it to be dead. Not long afterwards he became drowsy, and mentioned the occurrence to one of his mates. The latter immediately set about procuring medical assistance, but by the time it arrived the man was comatose, and his lower extremities paralysed. Galvanism and other usual remedies were applied, but without effect. In this extremity the medical man first called in caused Dr. Halford to be telegraphed for. The case was the first opportunity he had had of applying his new treatment to a human being, and he at first felt some hesitation in resorting to it. An incision, however, was made through the skin, exposing the superficial radial vein, and the point of the syringe being introduced into the vein, the injection (of ammonia) was completed. The beneficial effect was immediate. From an almost pulseless state, and from a stupor verging on death, the patient speedily became conscious. He has been steadily recovering since, and he is now reported to be nearly well. Whether the earlier treatment in any way contributed to the cure cannot, perhaps, be certainly known, but there appears to be little doubt—medical men entertain none—that the case must have ended fatally but for Professor Halford's treatment. We require, of course, some further cases before the merit of the discovery can be determined. Ammonia is not a new remedy for snake-bites, but Dr. Halford has the credit unquestionably of having applied it in a direct way by injection into the blood, so that its effects should be immediate and general. Its application in this way could only be safe in skilled hands. The discovery was not fortuitous, but resulted from a consideration of the microscopical alterations which he found taking place in the bloodvessels of animals subjected to the snake-poison. It is only right to add, however, that the observations of Dr. Fayrer and others have failed to verify the statements made by Dr. Halford on the altered condition of the blood-corpuscles. We learn from a letter which Dr. Halford addressed to the *Melbourne Argus* that he had previously instituted a series of experiments on the lower animals, and he publishes five of them which he performed on dogs. In four instances the treatment was successful. To carry out the treatment, a solution of ammonia—of the strength of one part of strongest liquor ammoniæ to two parts of distilled water—and an ordinary hypodermic syringe are required. The ammonia is thrown directly, but gradually, into the blood by puncturing any superficial vein, and may be repeated as its beneficial operation ceases.

With reference to the above, "a late resident in India" observes (*Times*, Feb. 1) that the attention of Indian residents is not needed, as the Bombay Government, upwards of six years since, ordered the following remedy, with directions for its use, to be kept at every police-station throughout the Presidency; "a late resident in India" thinks that instead of having to apply to a surgeon to inject the liquor into the

veins, this remedy, which is given internally, can be applied by any one, and, in his opinion, is equally efficacious.

*Liquor Ammoniæ Fortis for Snake-Bites. — Doses.* For an adult, 35 drops in $4\frac{1}{2}$ tolas of water (a wineglassful); 12 to 15 years old, 20 to 25 drops in $2\frac{1}{2}$ ditto; 8 to 12 years old, 15 to 20 drops in 2 ditto; 4 to 8 years old, 10 to 15 drops in $1\frac{1}{2}$ ditto; infants to 4 years old, 3 to 10 drops in $1\frac{1}{2}$ ditto.

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## Art. 74.—*The Treatment of Snake-Bites.*

### By Dr. Berncastle.

(*Australian Medical Gazette*, February 27.)

From a very large field of observation in New South Wales, extending over ten years, during which time Dr. Berncastle has paid particular attention to investigating this subject, where he had great facilities for doing so—having collected about two hundred cases of cures, or an average of twenty a year, which have come more or less under his notice from reliable medical authorities, some of which he has treated himself, he is enabled to lay it down as an axiom that no snake in Australia is equal to killing a man who, as soon as he is bitten, adopts the three following rules:—

1st. Pull up with the fingers the part bitten, and cut out immediately a piece of the flesh as large as a sixpence with a sharp penknife.

2nd. Lie down on a sofa in the open air until quite recovered.

3rd. Get a bottle of brandy, or any other spirits, immediately, and drink a wineglassful of it pure, without water, every quarter of an hour, until cured, or signs of intoxication begin to appear, which will be the proof that the poison is overcome, and the cure effected.

There can be no objection to sucking the wound and placing a ligature above it, to prevent absorption; but if the part is cut out at once, there is nothing to suck, nothing to be absorbed; and the one being done, nullifies the utility of the other two, and simplifies the treatment. Scarifying the bite is bad, as it still leaves the poison there, and even quickens its absorption by exposing it to a larger surface of blood, which is not at all inclined to flow after a bite, and therefore no fear of hæmorrhage need exist after cutting out the part. The blood, in scarifying, does not wash the poison away, but passes over it, leaving it exactly where it was first deposited by the fang. Cutting out the infected part thus does away with sucking, ligature, scarifying, and the necessity of applying any antidote to the bite, which last is simply an absurdity, as from the skin tightening over the puncture immediately it has been made, absolutely prevents any liquid reaching the virus at all; and if it did, nothing but aquafortis or potassa fusa would be of any use, as we have no proof of any milder fluids having the power to decompose effectually the snake virus.

With regard to the injection of ammonia into a vein, which has of late occupied public attention, Dr. Berncastle says that the remedy is worse than the disease, and that if the bite could not kill a man, he would have a very fair prospect of being killed by such a dangerous and useless proceeding. If ammonia is to be introduced into the system, it

can be done much quicker and in much larger quantities by the mouth, when it can be repeated every few minutes, than by the complicated, dangerous process of opening a vein; to do what? to throw into the circulation a few drops of ammonia, with the almost certain risk of phlebitis, or of death from air getting into the vein, which is more likely to occur than not.

Orfila, the greatest medico-legalist of the French school, says in his lectures:—"The experiments on the injection of ammonia into the veins were not attended with the results expected from it both by himself and others, the animals experimented on dying from convulsions of a more or less tetanic character, or from subsequent inflammation of the veins. The injection of this substance into the veins offers no advantage over giving it by the mouth, and its use by injection is attended by a danger of such an inconceivable character, that only a fool or a drunkard would employ it."

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## Art. 75.—*Carbolic Acid a Cure for the Bites of Venomous Snakes.*

(*Quarterly Journal of Science*, January.)

The value of carbolic acid as a cure for the bites of venomous snakes has been made public by Dr. J. W. Hood, B.Sc., of Melbourne. He writes:—"I have long entertained the opinion that carbolic acid, taken internally and used as a caustic to the wound, would be found to be beneficial, and perhaps a specific cure. That I am right to a certain extent is proved by the fact that a friend of mine, a medical man living at Warrnambool, Dr. Boyd, successfully treated two cases of snake-bite with carbolic acid. I am not aware of more particulars than that the first case was a young lad bitten by a tiger-snake, the most venomous these colonies produce, and Dr. Boyd, six hours after the boy was bitten, administered ten drops of pure acid in brandy and water every few minutes. The effect was magical—from a pallid countenance, slow pulse, and semi-comatose condition, the patient rallied to a bright expression, ruddy glow, and quick pulse, and the recovery though slow, was continuous and certain."

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## Art. 76.—*The Physiological Effect of Snake-Bite.*

By Joseph Jones, M.D., New York.

(*Quarterly Journal of Science*, January.)

Dr. Jones has made some interesting observations on the effects of snake-bite. He used the American snake called the copperhead, and subjected several dogs, at various times, to its bite. In some cases the dogs died, in others they recovered. In all cases Dr. Jones observed carefully the microscopical condition of the blood, and in cases of death made post-mortem examinations. Dr. Jones observes in one case:—"The blood from the swollen infiltrated cellular structures of the head and nose, where the snake inflicted the severest bite, presented a pecu-

liar appearance; thousands of small acicular crystals were mingled with the altered blood-corpuscles, and as the bloody serum and effused blood dried, the blood-corpuscles seemed to be transformed into crystalline masses shooting out into crystals of hæmatin (hæmato-crystallin?) in all directions. The bloodvessels of the brain were filled with gelatinous coagulable blood, which presented altered blood-corpuscles and acicular crystals." Dr. Halford, about two years since, figured and described in the *Quarterly Journal of Microscopical Science*, the microscopic appearance of the blood of a dog killed by snake-bite. He particularly drew attention to the enormous increase in the number of white corpuscles in the blood. Dr. Joseph Jones concludes that the special toxic effect of the poison of the snake is due to its destructive effects on the red blood-corpuscle. Mr. Frank Buckland, in a recent note on this subject in his highly interesting journal *Land and Water*, says that the snake's poison seems to "curdle" the blood. It may very well be questioned how far it is right to attribute this condition of the blood to the direct *action* of the snake's poison. Should we attribute the buffy coat of the blood of a fever patient to the *direct* action of the fever-poison, or the increase of white corpuscles after blood-letting to some specific poison in the lancet?

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## Art. 77.—*Morbus Saturninus* (*Lead Poisoning*).

By William Frank-Smith, M.B. Lond., F.C.S., Lecturer on Medicine at the Sheffield School of Medicine.

(*The Lancet*, May 29.)

Among the file-cutters of Sheffield, Dr. Frank-Smith has noticed one or two points worthy of remark:—(*a*) As to the mode in which the lead enters the system. (*b*) As to certain rarer symptoms of the disease. (*c*) As to the elimination of the *materies morbi*.

(*a*) *As to the mode of ingress.*—As is well known, in the file trade a small leaden anvil or bed, on which the file is held while being cut, is the source of the poison. The author has reason to believe that it is almost entirely through the skin of the hands that the lead penetrates. The file-cutters generally wear the nails long, especially the thumb nail of the left hand, which holds the chisel and is in constant contact with the lead. Behind these appendages a large quantity of black dirt accumulates. Dr. Frank-Smith collected some of this from several men, and had no difficulty in chemically detecting lead. Again: having heard of the use of sulphuretted baths, the author employed a solution of potassium sulphide, applied with lint and gutta-percha like a water-dressing. In several cases the skin of the hand became dyed with the lead sulphide. In several cases also in which this local treatment had been continued many weeks, it was very curious to observe that while the *old nail was dyed black or deep brown, the new nail near the matrix had its natural white colour.*

(*b*) *As to certain symptoms.*—(1) Lead kidney: Dr. Frank-Smith has short notes of two cases in which a fugitive albuminuria was detected. In these cases palsy was the prevailing symptom. They were chronic

cases with evidences of an unusually high degree of plumbic saturation. —(2) Neuralgia: Dr. Frank-Smith has notes of ten cases of plumbic neuralgia. Of these, in seven the pain was confined to the left thumb and hand; in two the crural nerve and the patellar plexus were affected very severely; in one the pain was over the frontal nerve.

(*c*) *As to elimination.*—When the author commenced practice in Sheffield he employed the iodide of potassium as an eliminative, and while employing it made a somewhat remarkable observation, which has been since confirmed by Dr. Hilton Fagge. A man came under his care with severe lead palsy. On examining his mouth he was surprised to find the lead line absent; there was no trace of it, though he looked carefully with a good lens. The patient was placed under the iodide treatment—doses, ten grains three times a day. In the course of a week or two little arches of black puncta were seen over the roots of the teeth, and in the course of a few more days the blue line was well marked, disappearing again before he left the hospital, about six weeks after his admission.

Dr. J. C. Hall has mentioned this case in his paper in the *St. George's Hospital Reports.* Dr. Hall, who has had very extensive experience in these cases, employs a mixture containing sulphuric acid and sulphate of magnesia; and after careful comparison of the results of the sulphuric and iodide treatment, Dr. Frank-Smith has now no doubt as to the superiority of the former.

The mixture which the author employs, and which acts with remarkable celerity and certainty, is as follows:—Sulphate of quinine, sulphate of iron, of each one grain; strychnia, thirty-sixth of a grain; dilute sulphuric acid, five minims; sulphate of magnesia, one drachm; water, one ounce: three times a day.

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## Art. 78.—*The Ordeal Poison-nut of Madagascar.*

(*Quarterly Journal of Science*, January.)

Dr. Bennett, of Sydney, writes an account of this tree in the *Journal of Botany.* Specimens of it have been naturalized in New South Wales, and in the Botanical Gardens at Sydney there is a very fine tree of it, which somehow or other obtains a mysterious sort of respect from the visitors to the gardens, who, although they do not hesitate to gather from other flowers and shrubs, stand in awe of the Ordeal-tree. The flowers are very fragrant, of a crimson colour, and appear in November and December. The plant belongs to the natural order *Apocynaceæ*, and its native name is *Tanghin*—whence *Tanghinia.* The fruit is of the size of a hen's egg, containing a hard stone or nut, the kernel of which is white, of a bitter taste, and has remarkable poisonous properties. The poison of the Ordeal-nut acts *directly* upon the heart and muscles. When used by the natives as a detecter of crime, the kernel is pounded and administered to the supposed criminal. Frequently sickness is caused, and the accused then escapes. If not, the poison is rapidly absorbed, and death ensues. A difference of colour is said to exist between those kernels which produce only vomiting and those which produce death; and the friends of an accused person will stand by and

object to certain nuts being used. The officers are said to administer these two varieties in a partial way; but it is not very certain that they can really discriminate between the virulent and less active kernels. Dr. Bennett suggests that there may be two species of *Tanghinia* existing in Madagascar, differing in the intensity of their poisonous power. The milky juice of the *T. Manghas* is said to be used as a purgative, and according to Rumphius, the natives boil and eat the leaves mixed with other pot-herbs, which thus act as a gentle laxative. The bark is also used in Java and Amboyna as a familiar cathartic, the action of which is said to be very similar to that of senna. Manghas is the name given to the tree in its native country.

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## Art. 79.—*Antidote to Carbolic Acid.*

(*Medical Times and Gazette*, March 27.)

Messrs. Calvert wish to make known the fact that sweet-oil or castor-oil in large quantity is the best antidote to carbolic acid, when it has been swallowed in poisonous doses.

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## Art. 80.—*Detection of Strychnia in Poisoning Cases.*

By M. Cloetta.

(*British Medical Journal*, February 27.)

To detect the presence of strychnine in cases of poisoning, M. Cloetta counsels the following treatment:—Any albumen which may be present in the liquid is first removed, subacetate of lead added, and the liquid filtered; the excess of lead is removed by sulphuretted hydrogen, another filtration made, and the filtrate evaporated to dryness. The residue thus obtained is left in contact with ammonia for twenty-four hours, then agitated with double its volume of chloroform, and the chloroformic solution evaporated; this residue is dissolved in two cubic centimetres of water containing pure nitric acid, the solution filtered, and to the filtrate a drop of solution of bichromate of potash added. At the end of a few days crystals of chromate of strychnine appear, in which the chemical characters of strychnine may be recognised. M. Cloetta affirms that by this process he has been enabled to prove the presence of one-twentieth grain of strychnine in 650 cubic centimetres of urine.

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## Art. 81.—*A Case of Poisoning by Stramonium, and novel way resorted to to produce Vomiting.*

By J. J. Hillary, Uxbridge, Licentiate Medical Board.

(*Dominion Medical Journal*, November, 1868.)

The following case is related by Mr. Hillary:—

"On the evening of the 20th September I was sent for to see a man, J. P., aged forty, whom the messenger stated had taken a teacupful

of herb-tea, made from an herb sent by a friend of his and recommended as a cure for asthma, to which he was subject. About five minutes after he had taken it he became 'wild, and didn't know any one.' When I got to the house (in about ten minutes) I found him seated in a chair, leaning forward on his knees, shivering, staring wildly, countenance bathed in perspiration, pupils largely dilated, talking vaguely, and perfectly unconscious of surrounding objects, pulse 90 and full, hands and arms convulsed every few moments, legs unable to support his body, and dragged after him when we tried to get him to walk.

"On examination the herb proved to be datura stramonium. The first thing to be done was an emetic. Mixed half a drachm sul. zinci in one ounce water, and tried to get him to swallow it, but he either could not or would not, although we held him and forced it into his mouth, holding his nose at the same time. As there was no stomach-pump to be got, I took a No. 12 gum elastic catheter, forced open his mouth, passed it down the œsophagus, and having ready a solution of sul. zinci, I took it into my mouth and squirted through the catheter into the stomach. In about twenty minutes he vomited freely, throwing up a quantity of stuff smelling strongly of the 'herb-tea.' He remained in a state of stupor, with the convulsive movement of the arms, for about twelve hours, then fell asleep for six hours, and awoke sensible, but feeling 'very queer,' and complaining of his throat being sore and a difficulty in swallowing. His pupils continued dilated for several days, but when last I saw him he was quite recovered and very grateful."

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## Art. 82.—*Case of Poisoning by Arsenic externally applied.*

By Thomas Graham, M.D., Surgeon to the Infirmary, Paisley.

(*Glasgow Medical Journal*, November, 1868.)

Cases of poisoning by the external application of arsenic are very rarely brought under the cognizance of the public prosecutor. Having been engaged as a witness for the Crown in such a case, Dr. Graham is enabled to record the facts, which are of great importance in a medico-legal aspect:—

At the Autumn Circuit Court, in Glasgow, a man named Alexander Paterson, originally a gardener, then a shoemaker, who, for twenty years partially, and for the last eight years exclusively, has devoted his time to the cure of cancer, asthma, &c., was charged with the crime of culpable homicide, in as far as he had undertaken, "culpably and recklessly," to prescribe for and treat, medically or surgically, the now deceased Mrs. L., who was at the time suffering under chronic inflammation of the right breast, by applying to the breast, after blistering, an ointment containing arsenic, on various occasions between the 21st and 27th May, so that a quantity of arsenic was absorbed into the system of the said Mrs. L., and she died on the 27th May in consequence, and was thus "culpably bereaved of life by the said Alexander Paterson." After trial, the jury found the prisoner guilty as libelled,

but recommended him to the leniency of the court. He was sentenced to four months' imprisonment. The facts are these:—

Mrs. L., aged thirty-nine, married fifteen years, and mother of eight children, weaned her youngest child, aged about twenty-two months, in March last. Her constitution was debilitated by over-lactation. Immediately after weaning her child she had a "weed," accompanied by fixed pain and induration of the right breast. Poultices were applied for some weeks, and about the beginning of May two punctures with a lancet were made in the indurated part of the breast; a small quantity of bloody pus flowed from the punctures; poultices were continued; the induration was not diminished. The patient had been reading a description of cancer in some popular work on Domestic Medicine, and she became convinced that the pain she felt in her breast was the same as that described in the book as indicative of cancer. Her husband, who had heard of several persons having been cured of cancer by Alexander Paterson, called him in to see his wife. Paterson stated that the tumour was cancerous, and the case was committed to his care. The treatment was commenced by removing the cuticle from the indurated part of the breast by a blister, the raw surface was then dressed with an ointment, smeared upon a piece of calico of exactly the same size. The first application was on Thursday, the 21st May, and was immediately followed by severe burning pain in the breast. Violent headache, thirst, sickness, and occasionally retching; numbness in the arms and legs, sleeplessness and loss of appetite supervened in a short time. The ointment was applied daily till Monday, the 25th, when Paterson again saw the patient, examined the breast, and remarked that she was doing very well. He had given directions that should vomiting occur, or the pain in the breast become very severe, a poultice was to be applied. Shortly after his visit on the 25th, the pain in the breast became intolerable; faintishness and palpitation of the heart were complained of, and a poultice was applied to the breast over the ointment. The pain was alleviated, but the constitutional symptoms continued. Inflammatory action extended from the breast to the shoulder and arm. There was no fresh application on Tuesday the 26th. On the evening of that day patient complained of a severe pain in the belly, which was somewhat relieved by a sinapism. Next morning she said she never could survive such another night's suffering. On Wednesday, the 27th, the points of the sore not sloughing were smeared with ointment, applied by the finger, and the cloth, which had been applied on the 25th, was replaced. About two o'clock, afternoon, patient was seized with a kind of fit, with lividity of the face, foaming at the mouth, and moaning, to use the husband's expression, like "a half-felled cow." She continued unconscious for several minutes, and on regaining consciousness, said she had been in a queer place, that she felt, as it were, a dart go through her, that she then became insensible, and had no further recollection of what happened to her during the fit. A poultice was again applied, also over the ointment, and an enema administered. During the afternoon patient expressed herself as feeling much better than she had done since the commencement of the treatment, took more food, and with greater appetite than she had experienced for weeks, and altogether was very hopeful that her pains would

soon be over, and her recovery certain. Between nine and ten o'clock the same evening she suddenly said, "There it is again," went off in a fit, and died immediately. Thirst had continued to increase during the whole course of the treatment. Palpitation of the heart had been persistent from the 25th. The bowels had been constipated.

*Post-mortem appearances*:—The left breast was large and flaccid; the right breast was larger and firmer, and the central portion indurated. When pressed, each breast emitted a quantity of thick yellowish milk. The right breast presented an oval-shaped excoriated surface above the nipple, measuring three and a half inches by three inches, ulcerated in several parts, and mostly dark and sloughy in appearance. The excoriated surface was partly covered by a piece of calico, smeared with pinkish ointment, and retained in position by strips of adhesive plaster. On bisection, the substance under the excoriated surface was found intensely reddened to the depth of half an inch. The glandular structure above the nipple was indurated, and the meshes firm and fibrous; at the lower part was a small cavity containing glairy matter and pus cells.

The left lung was congested, there was effusion into the right pleural cavity, and the right lung was congested and œdematous. There was half an ounce of serous fluid in the pericardium. The right ventricle and auricle were filled by coagulated blood and a fibrinous clot. The left auricle and ventricle were empty. The liver was normal in size but friable, and attached by recent fibrinous bands to the hepatic flexure of the colon. The stomach contained an ounce of food, in a state of emulsion, mixed with mucus. The mucous membrane of the cardiac orifice was highly congested and discoloured by extravasation of blood, and the discoloration extended in patches over the greater part of the larger curvature of the stomach. The duodenum contained digested food, and like the stomach presented numerous ecchymosed patches. The spleen was soft and friable. The kidneys and bladder were healthy. The brain, with the exception of a little sub-arachnoid effusion, was healthy.

On chemical analysis, arsenic was found in the liver, kidneys, and coats of the small intestine, and in the contents of the intestine, but not in the stomach, spleen, or blood. The dressing found attached to the breast, at the post-mortem examination, contained rather more than four and a half grains of arsenic. The ointment used contained forty-nine per cent., nearly half its weight of arsenic.

No trace of malignant disease was found in the affected mamma.

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## Art. 83.—*On Poisoning by Lobelia.*

By Charles Meymott Tidy, M.B., M.S., Joint Lecturer on Chemistry at the London Hospital.

(*Medical Press and Circular*, February 3.)

There is no form of quackery, Dr. Tidy writes, more terrible and serious in its results than what is ordinarily termed "Coffinism." A name (ominous indeed!) derived from the founder of the system, a

"Dr. Coffin," whose patients are to be found in no small numbers amongst our poorer classes, and whose income must be almost entirely derived from their hard-won earnings. But Coffinism deals with no innocent or harmless drugs; nor is it satisfied with any innocent or harmless doses. Starting with their pet, though absurd theory, that "Heat is life; the want of sufficient heat, disease; and cold is death," they administer, with no cautious or measured hand, monstrous doses of cayenne pepper and lobelia to restore *healthy action*, or, what is the same thing to them, *warmth*, to a diseased and broken-down system.

Within a very short time Dr. Tidy has had two cases of death come before him from, he believes, the absurd practices of these reckless practitioners.

The lobelia inflata (Indian tobacco) is a native of North America. Its poisonous qualities were first noticed by its effects on cattle that had accidentally eaten it. Many eminent physicians in the United States have from time to time studied its action. It has a somewhat nauseous and irritating smell, and a burning acrid taste, somewhat resembling tobacco. The dried herb, as imported, is of a yellowish green colour, and is usually prepared by the Shaking Quakers of New Lebanon (Pareira). It contains a volatile oil, which, when distilled with water, imparts to the water the smell and acrid taste of the plant; also an acid which has been termed lobelic acid; and lastly, the active principle of the plant that has received the name of lobelina, but about which little is positively known.

Although it was not introduced into England prior to 1829, when Dr. Reece proposed it as a specific in asthma, it had become a favourite quack medicine in America as early as 1800. In the year 1809 a man of the name of Samuel Thompson was tried and convicted of poisoning a man with it. Now, lobelia is a poison, not in any way singular in this respect, that is frequently an antidote to itself. And very fortunate indeed is it for many patients that it proves so.

In giving it to animals, Dr. Tidy has found in many cases such violent vomiting produced that the poison must have been entirely got rid of, for they often recovered after most severe symptoms. In one case, however, in which he gave a small terrier a drachm of the powdered leaves and seeds which were retained, death resulted in about twenty-eight hours and a half.

So long, then, as vomiting is produced all goes well, but when this becomes impossible, by reason perhaps of prostration of the system by disease or old age, or, the reverse of this, its administration to infants and very young children, then it is that vomiting is not induced, and, failing this, there is nothing left for the wretched patient but death.

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## Art. 84.—*To Prevent Death by Chloroform.*

(*Pacific Med. and Surg. Journ.*; and *Medical Record*, February 1.)

Experiments on inferior animals show that they may be restored from apparent death by chloroform by the continuous galvanic current, the negative pole being put in the mouth and the positive pole in the

rectum. In some cases the animal was left for two minutes in a state of apparent death, and then restored.

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ART. 85.—*On a New and Simple Method of inducing Artificial Respiration in cases of Asphyxia from Drowning, Strangulation, Chloroform, Poisonous Gases, &c.*

By W. P. BAIN, M.D., Surgeon to the Poplar Hospital.

(*The Lancet*, December 19, 1868.)

The author speaks of the necessity of the best and simplest means being employed in the above cases immediately and on the spot, and rapidly runs over the several methods which have been adopted up to the present time for restoring animation. He mentions in terms of considerable praise the mode of compression and relaxation of the walls of the chest, especially by simply pressing down the sternum, showing that as much as 600 cubic inches of air may be exchanged in the lungs this way in a minute—a plan of which it has been the fashion to speak rather disparagingly. He explains Dr. Marshall Hall's mode, which, although a very inconvenient one, is also better than it has lately been represented to be.

To Dr. Silvester he gives high praise for his discovery of utilizing the muscles used in respiration, by drawing the arms over the head of the patient, thereby expanding the chest, and thus favouring inspiration. He finds fault with it, however, in its being a roundabout mode of accomplishing its purpose, and necessitating three separate movements.

The author then introduces a plan hitherto not known in this country, the invention of the celebrated Pacini, of Florence, which consists in placing the patient on his back on a table or bed, the operator having his abdomen against the head of the patient, placing his hands in the axillæ on the dorsal aspect, and then pulling the shoulders towards him with an upward movement at the same time. The shoulders are then relaxed, then the former movement, and so on alternately. In many cases operated on by this method the air makes a loud noise when it passes the larynx, as in snoring.

The author was so impressed with the excellence of this plan that he determined on his return from Italy to make experiments on it, as suggested to him by its illustrious inventor. He had not long, however, proceeded with these before he discovered two modes considerably superior, and throwing also somewhat in the shade the labours of Marshall Hall and Silvester. In experimenting on the dead subject he employed an india-rubber tube, one end of which was tied in the trachea, and the other communicated with a small spirometer, upon the principle of Hutchinson's, so that the passage of air to and fro the lungs could be easily observed by means of a scale showing cubic inches. He found that the simple process of raising the upper part of the thorax from the table by taking hold of the arms caused a considerable influx of air, varying with the angle that the arms made with the body. For instance, if the body were raised by the arms at an angle of 45° (towards the face) the inspiration would amount to, say twenty

cubic inches. If the body were lifted by the arms in a vertical direction, the amount would be fifteen cubic inches, and if pulled up by the arms at an angle of 45° (towards the feet), the amount would be about ten cubic inches. But by the first of these modes a quantity of air considerably greater than by Hall's or Silvester's plan was generally obtained.

The best and most simple method, however, which the author has discovered is founded upon those of Silvester and Pacini. He simply places his fingers in the axillæ in their front aspect, with his thumbs over the outer ends of the clavicles, and draws, with a certain amount of power, the shoulders towards him. On relaxing his hold, the shoulders and chest return to their former position, and so on with alternate motion. In this case therefore there is only one movement to be effected instead of three, and he avoids the fatigue of having to bear the weight of the patient's arms as well, as is required by Dr. Silvester's method. It has the advantage also of being accomplished in a more rapid manner than any other plan. As far as the author's experiments have gone, the quantity of air inspired at each movement by this plan is about thirty to Dr. Silvester's twenty, and as the operation can be conducted with much greater rapidity, the author considers that at least twice the quantity of air can be inspired by this mode than by any other yet known; and he expresses a wish that a subject which is of such practical importance should be further investigated.

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## SECT. IV.—THERAPEUTICS.

### ART. 86.—*General Principles of Neuro-Therapeutics.*

By JOHN CHAPMAN, M.D., M.R.C.P., Physician to the Farringdon Dispensary.

The following propositions, quoted from Dr. Chapman's work on *Diarrhœa and Cholera*, constitute a summary statement of the principles fully explained in his interesting and valuable *brochure* on *Sea-Sickness*:—

"1. That the chief function of the sympathetic nervous system consists in regulating the diameters of the bloodvessels throughout the body.

"2. That when the sympathetic ganglia are in a state of maximum hyperæmia the nervous effluence from them to the muscular coats of the arteries to which they are severally related stimulates them so excessively as to induce in them a condition of tonic spasm—a spasm so intense as to result in shutting off the blood altogether from a large proportion of the peripheral arteries.

"3. That when the sympathetic ganglia are in a state of maximum anæmia the nervous effluence from them to the muscular coats of the arteries to which they are severally related becomes so extremely feeble that a condition resembling paralysis is induced; the muscular coats of the arteries become consequently extremely relaxed; and as the blood flows in the direction of least resistance, the parts supplied by the arteries in question become suffused with blood to an excessive degree.

"4. That when the spinal cord is in a state of hyperæmia, cramps of the involuntary muscles surrounding the alimentary tube, cramps, or even convulsions of the voluntary muscles, an excess of glandular activity, and an excess of sensibility (hyperæsthesia) are likely to ensue.

"5. That every gland and glandular follicle in the body is under the control of one motor nerve (which I call the *positive motor*) emerging from the cerebro-spinal system, and distributed to its secreting cells in order to regulate its functional activity; and of another motor nerve (which I call the *negative motor*) emerging from the sympathetic system, and distributed to its artery or arterial twig, in order to regulate its blood-supply.

"6. That in the same manner as glands are supplied with positive, as well as with negative motor nerves, so, there is reason to believe, every tissue of the body is thus supplied, and is thus placed and sustained in a state of elective affinity for the elements of the blood requisite for its nourishment and functions.

"7. That the sympathetic ganglia and the spinal cord can be rendered hyperæmic or anæmic, artificially, by means of heat, in the one case, and cold in the other, applied along the spine.

"8. That cold applied along the spine will subdue cramps, or excessive tension, of both voluntary and involuntary muscles, will lessen sensibility, will lessen secretion, and will increase the general circulation and bodily heat.

"9. That heat applied along the spine will (in some cases) induce cramps of both voluntary and involuntary muscles, will increase sensibility, will increase secretion, and will lessen the general circulation and bodily heat."

One of the most interesting proofs yet adduced of the power of the spinal ice-bag to increase the peripheral circulation is (Dr. Chapman states) that afforded in the shape of its indisputable effects on the eye. "I have been able," the author continues, "in several instances to improve vision to a very remarkable extent* by acting on the spine; and in October, 1864, having accidentally met at the Turkish bath Mr. Ernest Hart, whom I knew to be devoting himself especially to diseases of the eye, I communicated to him the result of my observations, and begged him to give the subject of the influence of cold and heat when applied to the cilio-spinal region on the circulation in the eye his special attention. He kindly promised to do so; and, in the *Lancet* of January 7th, 1865, he published a very remarkable case entitled, 'On a case of Amaurosis from progressive Atrophy of the Optic Nerve with Epileptic Complications treated successfully by the application of Ice to the Spine.' The patient, a lady, thirty-three years of age, healthy until she was twenty, then began to suffer from frequent and sometimes intense headaches. When twenty-one she had three severe epileptic fits, two years after she had another, and gradually they became so frequent that at the time when the treatment in question began, 'the attacks recurred sometimes twice or thrice in a week, lasted for an hour

* See especially the Case of Epilepsy, with Defective Vision, &c., described at page 58 of my pamphlet on *Functional Diseases of Women.*

or an hour and a half, and left her with a severe headache which prostrated her during the day.' Her sight gradually declined; 'and,' says Mr. Hart, 'when she came to me she could with difficulty read No. 10 of Giraud-Teulon's type. The ophthalmoscope showed palpable whiteness of the optic discs in both eyes. . . . . The pupils were semi-dilated, and did not contract fully under ophthalmoscopic examination. . . . . I could give no hope of cure. However, after a fortnight of temporizing without benefit I resolved to employ for her treatment the application of ice to the lower cervical and upper dorsal regions of the spine, which has been . . . . recommended by Dr. John Chapman as a means of increasing the afflux of blood through the agency of the sympathetic.' The ice-bag was applied during five weeks, generally three times a day, and for about half an hour each time. She had only three fits during this period, and they were comparatively slight. The remainder of the account I give in Mr. Hart's own words. 'That which most nearly touches the subject of my paper, however, is the great improvement which has occurred in her visual power. At the beginning of the treatment she could read no type smaller than No. 10 of Giraud-Teulon: she now reads No. 4 with ease. The pupils are no longer dilated, although they act sluggishly. But a point of great interest is, that the discs are now of a tint which may be pronounced natural; they are palely roseate. . . . . From a physiological point of view, this is remarkable as an example of visible regeneration, so to speak, of a nerve in process of wasting from disordered nutrition. Nothing else than the ophthalmoscope could have shown it; and nowhere but in the eye could it have been seen, for nowhere else is a living nerve subject to observation.' "

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## Art. 87.—*Therapeutics of Pain.*

### By W. A. Hammond, M.D.

(*Canada Medical Journal,* December, 1868.)

Professor William A. Hammond, of Bellevue Medical College, New York, in his lecture on the above-named subject, reported in the *New York Medical Gazette,* appreciates the value of various drugs as follows:—

1. In nervous headaches.

*Oxide of zinc* is of great value: ordinary dose two grs. three times a day after meals: maximum dose five grs. It is best given in form of pills.

*Nux vomica* is preferable to strychnia. The dose is $\frac{1}{4}$ gr. after meals. If the patient is chlorotic it is well to combine a grain of ferri redact. and $\frac{1}{2}$ gr. sulph. of quinine.

*Bismuth,* in the form of subcarbonate, will often take the place of oxide of zinc. Dose, two grs. after each meal. Bismuth probably assists digestion more than any mineral tonic, and is of use when there is gastric disturbance.

*Bromide of Potassium* is serviceable when the nervous system has been irritated; when exhausted it does harm.

*Bromide of Ammonium* is similar to the brom. of potas. in its action; dose need not be so large. Dr. H. often uses both combined.

*Opium* and its preparations are rarely of value in this disorder. If used the hypodermic method is best.

*Narcein* was brought to the notice of the Academy of Medicine, Paris, a few years ago, by Claude Bernard. Dr. Hammond refers to the unfavourable notice of this article by Dr. Da Costa, but still thinks that given in large doses it has a decided hypnotic effect.

*Phosphorus* is very useful in all forms of nervous headache. It is difficult of administration, and leaves an unpleasant odour about the person. The phosphates do not produce the effects of phosphorus. The best results are obtained from phosphoric acid dilute, in doses of thirty minims largely diluted.

*Arsenic*, as a nerve tonic, stands next to zinc in value. Fowler's sol. has generally been used, but of late the arsenious acid has been given in doses of about $\frac{1}{40}$th of a grain; particularly in cases of hallucination dependent on exhaustion.

As to the value of *galvanism* there are two very diverse opinions: one that it is useless; the other that it is nearly a panacea. The truth lies probably on the middle ground. We cannot act directly upon the brain, to any considerable extent, by the *induced* current or by reflex action. Dr. H. advises always the *constant current;* being careful to avoid too great intensity lest amaurosis be produced.

2. In the treatment of *neuralgia.*

*Belladonna*, although at one time much overlauded, is a very efficient drug. Dr. Hammond has not used atropia often, as the dose is difficult to graduate. The use of belladonna is chiefly to change the habits of the system. You may begin with doses of $\frac{1}{4}$th grain of the extract, and increase as necessary.

*Hypophosphites* are useful; may be given in doses of from ten to twenty grains. They act by setting free phosphorus in the stomach.

*Hypodermic Injections of Morphia* may be used during the paroxysm. In their use avoid the face; a good point is the inside of the arm.

*Aconite* is next in value. Simply rub the tincture upon the painful part until a pricking is felt. The action is often very powerful. Dr. H. once caused temporary paralysis of the arm in a lady by the too free application of the tincture.

*Chloroform* may be used externally, internally, or by inhalation not carried to insensibility. Repetition of inhalations may break up the paroxysm.

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## Art. 88.—*On the Diagnostic Value of the Ophthalmoscope in "Tubercular" Meningitis.*

By T. Clifford Allbutt, M.A., M.D. Cantab., &c., Physician to the Leeds Infirmary.

(*The Lancet*, May 1.)

Dr. Allbutt thinks that the ophthalmoscope comes to our assistance, and gives us the same kind of help in detecting incipient or slight de-

grees of tubercular meningitis that the stethoscope gives us in detecting those incipient or slight degrees of ulcerative change in the lungs, which without it are beyond certain diagnosis. When a patient is seized with vomiting, headache, convulsions, and other symptoms of meningitis, and when at the same time, on examination with the ophthalmoscope, Dr. Allbutt finds congestion of the optic disc and retinal vessels, which is nearly always the case, then he has no hesitation in saying that the patient is suffering from meningitis at the base of the brain, and the autopsy proves the diagnosis to be correct.

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## Art. 89.—*On Auscultation of the Œsophagus applied to the Diagnosis of the Affections of this Organ.*

By Dr. C. W. Hamburger.

(*Medizinische Jahrbücher*, xv. Bd. 11 Heft, 1868 ; *Gazette Hebdomadaire*, No. 50, 1868.)

Dr. Hamburger wonders why the affections of the œsophagus have not been submitted to exploratory proceedings analogous to those which have acquired a remarkable precision in the diseases of the lungs, heart, and larynx. The diminished frequency of these affections would explain this neglect, if one were not aware how often the lesions of the œsophagus present at their commencement difficulties in diagnosis, without considering the lesions which may pass unperceived.

The actual elements of the diagnosis consist principally in pain, dysphagia, and exploration with sounds.

Pain gives but insufficient information for diagnostic purposes. Existing at times when there are no severe lesions of the œsophagus, and caused often by changes in the adjacent tissues, this symptom has merely a secondary value. Dysphagia, in addition to the very numerous independent causes of a lesion of the œsophagus, directs attention to this organ, but often leaves the diagnosis incomplete or doubtful.

Exploration with the sound affords more important characters, but if the instrument be rigid and the surgeon inexperienced, it is to be feared that the diagnosis will not be determined without the aid of some disaster; if the sound be too soft, the exploration may be rendered fruitless by existing diverticula ; the results of the proceeding are difficult to interpret ; in addition, but incomplete information will often be obtained.

Dr. Hamburger, in the first place, establishes the conditions of auscultation. In the neck the œsophagus is examined on the left side, behind the trachea and between the hyoid bone and the supra-clavicular region. In the chest the auscultation is made on the left side of the vertebral column from the first to the eighth dorsal vertebra, and immediately by the side of the spine. Auscultation is applied during the deglutition of a spoonful of water ; alimentary boluses more or less solid are not serviceable.

In the normal condition of the œsophagus the signs afforded on auscultation are complex, and may be given in *résumé* as follows :—

The stethoscope being applied at the level of the hyoid bone during

deglutition of a spoonful of fluid, a loud gurgling noise is heard; the water seems to pass forcibly into the ear of the observer. On auscultation of the œsophagus between the cricoid cartilage and the eighth dorsal vertebra, deglutition is found to be accompanied with a noise analogous to that formed by a small fusiform body which is embraced by a contracted ring of œsophagus passing rapidly down the tube. The contractions of the œsophagus are made progressively and circularly upon the contained fluid, and produce a special bruit, an analysis of which allows one to mark the different periods of deglutition. The tone of this bruit is that of an easy gliding, and can be readily fixed in the memory. With some care the observer will succeed in distinguishing during deglutition, the tone or timbre, the form of the swallowed fluid bolus, the energy of the contractions of the œsophagus, the rapidity of the act of œsophageal deglutition, and the direction followed by the liquid mass. Each of these elements is modified when the œsophagus becomes the seat of lesions.

The tone may fail in part or completely; it will cease quickly in cases of rupture of the œsophagus or of a foreign body; a diverticulum or a contraction will produce an analogous effect.

Alterations in the quality of the tone or the timbre are numerous. Thus a rubbing sensation analogous to the pleural or pericardial rubbing will be experienced when the mucous membrane is no longer smooth, which may occur in cases of diphtheritic and croupy inflammation, in severe fevers, and exanthemata, when fibroid or polypoid formations exist, during an eruption of confluent small-pox, and with deep ulcers.

The tone becomes a blowing one with ruptures of the œsophagus, and sometimes also when a diverticulum exists with a narrow opening, or even during spasmodic contraction; the *bruit de froufrou* has often been observed on the detachment of a pseudo-membrane; the timbre is metallic in character when pneumothorax exists on the left side. The bruit of regurgitation is heard in œsophagism principally, and in cases of contraction, when the energy of the muscular tunic is maintained. The *bruit de râpe* is of great value, especially when it is perceived by auscultation; it indicates with the greatest precision the seat of the lesion. The other auditory characters present less interest, with the exception of the variations in the direction of the bruits, which depend upon regurgitation.

Regurgitation is produced in most cases under the following circumstances:—The swallowed mass is arrested, but is then immediately thrown up and regurgitated, as in cases of foreign bodies, of œsophagism, and of commencing contraction; or on the other hand, the period of arrest is longer and the swallowed mass is returned at a later period, varying in different cases from a few minutes to a whole day; a kind of rumination is then produced, and forms one of the best signs of œsophageal dilatation.

Regurgitation may be produced in another circumstance in which the stethoscopic signs alone enable one to make a ready diagnosis. This occurs when the food ascends along a part of the œsophagus, but does not reach the buccal cavity; regurgitation is then incomplete.

In a concluding section, Dr. Hamburger treats of the signs presented on auscultation by contraction of the œsophagus. These signs enable

one to establish the diagnosis of three stages or three progressive degrees of contraction.

In the first stage, there is merely swelling of the mucous membrane, deglutition of the alimentary bolus is but slightly impaired; if fluid be swallowed, however, the small quantity of air which this forces towards the cardia during deglutition raises a portion of it and escapes upwards, producing at the same time one or more bubbles, which can be perceived only through auscultation; catheterism will not give any clear sign at this period.

With a more advanced degree, the second stage, the contraction is due to swelling of the mucous membrane, to the presence of a more or less abundant mucous exudation, and to the marked reflex contraction of the circular muscular fibres. At this stage, not only one or a few bladders are heard, but a gurgling bruit. The dysphagia is now but slightly marked; it is the more important, however, to establish the diagnosis, since at this stage particularly one may apply with success external or general therapeutic means.

When the contraction is confirmed, and there is considerable diminution in the calibre, violent regurgitative bruits are produced, and finally some of the more complex signs already mentioned. The diagnosis, it is true, can now be established by catheterism, and by noting the existence of dysphagia. But auscultation gives useful information concerning the form and the seat of a contraction and the existence of a dilatation, and also permits one to follow the results of the treatment.

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## Art. 90.—*Some of the Uses of Bismuth.*

### By W. F. McNutt, M.D.

(*California Medical Gazette*, January, 1869; and *New York Medical Journal*, April.)

In a paper on this subject, Dr. W. F. McNutt, of San Francisco, remarks:—"In organic disease of the heart, where the liver becomes congested, and the secretion of bile suppressed, sulphuretted hydrogen is generated from the decomposition of albuminous food. Every physician is familiar with the train of nervous symptoms that such patients exhibit—sleeplessness, restlessness, palpitation, pains, &c., and flatulence of the bowels; and he also finds that the symptoms are aggravated by opium, while blue mass, &c., is also mostly useless. Believing that these nervous symptoms are due mostly to the poisonous effects of absorbed sulphuretted hydrogen, I administer bismuth, and almost always succeed in quieting the patient. November 22nd I was called to see a lady, with valvular disease of the heart (the mitral), in consequence of which the lungs and portal circulation were congested. She had violent palpitation, was very nervous and restless, had been unable to sleep for several nights, had pain in the side, headache, and bowels flatulent and constipated, but passages very offensive. I administered bismuth freely, and on the 24th she reported herself as having had the best night's sleep that she had enjoyed for weeks, though a variety of

medicines had been administered to her. I have a number of similar cases in my note-book.

"I believe that bismuth not only destroys the sulphuretted hydrogen present in the bowels, but is an antiseptic to albuminous matters, preventing their putrid decomposition. That bismuth destroys the sulphuretted hydrogen present in the bowels is proved by the fact that, if administered for a few hours in considerable quantity, the flatulence disappears; and if a dose of oil is given, the evacuations are as black as tar, where the evacuations were natural or clay coloured before the bismuth was given. It is the chemical action of the gas upon the bismuth which gives the evacuations their black colour. But a small portion of bismuth, when given in powder, and in doses of from gr. 5 to gr. 20, is dissolved in the stomach and absorbed. The remainder passes undissolved into the bowels, and while it may have some local anæsthetic action on the bowels as on the stomach, it will be comparatively inert unless there be sulphuretted hydrogen present.

"Its action on the sulphuretted hydrogen is more particularly demonstrated when given for chronic diarrhœa. Some have attributed to bismuth astringent, tonic, and sedative properties, on account of their success with it in chronic diarrhœa. Others have given it for the same disease without the slightest benefit, and consequently have denied that it has astringent, or sedative, or tonic properties. While the fact is, that in cases of diarrhœa that are caused or kept up by the poisonous effect of sulphuretted hydrogen, I have given bismuth, combined with a few grains of Dover's powder, with more real benefit to the disease than any drug I could administer. Opium alone is useless or worse. Charcoal, by absorbing the gas, has been, next to bismuth, the most beneficial."

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## Art. 91.—*Intellectual Work and the Temperature of the Head.*

By J. S. Lombard, M.D.

(*Quarterly Journal of Science*, January.)

Dr. J. S. Lombard, by means of an exceedingly delicate thermo-electric apparatus, has made some highly interesting experiments on the influence of cerebral activity on the temperature of the head. He finds: 1st. That in the state of cerebral repose (during night) the temperature of the head varies very rapidly and frequently. 2nd. The changes are very small, scarcely reaching the hundredth of a degree centigrade. 3rd. In proportion as the activity of the brain increases, the temperature is found to rise. 4th. Any cause attracting the attention (a sound, the sight of an object or a person) produces an elevation of temperature. 5th. Very active intellectual work produces a much more marked elevation of temperature than in the preceding cases. It does not, however, exceed a twentieth of a degree centigrade. 6th. An emotion, or reading aloud anything of great interest, causes an elevation of temperature. It is not the movement of the heart or of the muscles which under these circumstances causes a rise in the

temperature of the head. 7th. During very arduous intellectual work, the temperature of the limb falls even as much as a quarter or half a degree centigrade; in fact, no doubt (but only in part), owing to the immobility of the body. 8th. It is in the region of the occipital protuberance that the elevation of temperature had its chief seat in the preceding experiments.

It will be interesting to consider the bearing of these phenomena on the Conservation of Force. It is apparently clear that intellectual activity—thought—is a force totally distinct from, although associated with the mode of motion known as "heat," for both, it appears, increase in activity simultaneously. More than this it were not prudent to say at present, but it appears that here we have the first approach to a better understanding between the relations of "mind and matter," a subject upon which so much has been said speculatively, and so little done experimentally.

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## Art. 92.—*A Visit to some of the German Spas: Teplitz.*

By J. M'Call Anderson, M.D., Professor of Practice of Medicine in Anderson's University.

(*Glasgow Medical Journal*, May.)

The most fashionable of all the watering-places of Germany, writes Dr. Anderson, is Teplitz, which is reached by rail from Dresden in four hours.

The following are the principal diseases which are benefited by a course of the baths at Teplitz:—

1. *Gout and Rheumatism, and other joint affections* in the chronic stage. Around the joints inflammatory exudations are apt to take place, which interfere with their mobility, and it is towards the removal of these exudations that the baths are specially directed. To this end the douche and mud baths are particularly valuable. It need hardly be said that the waters have very little effect in correcting the morbid condition of the blood in gout and rheumatism; hence it is a common practice for patients to have a course of other mineral waters, such as those of Marienbad, Carlsbad, or Vichy, which are directed against the blood disorder, prior to using the baths of Teplitz for the removal of the immobility which results from bygone attacks.

2. *Painful nerve affections*, especially those occurring in connexion with rheumatism, are likewise often moderated or removed.

3. *Wounds and ulcers, and the like*, are frequently cured by the baths, especially those which are associated with well marked exudations, while they favour in a remarkable manner the separation and removal of bony sequestra and foreign bodies.

4. *Certain forms of paralysis* are sometimes moderated or removed by them, especially the rheumatic forms and those which arise from the pressure of exudations upon the nerves, the result of previous inflammatory attacks.

The baths are contraindicated in all cases of acute disease, and they must be used with caution in persons of plethoric habit, or who

are liable to apoplexy or congestions. As a rule, the cooler baths should be taken at first, and the warmer ones substituted at a later period of the course, if the former agree and are inoperative. For the same reason the douche and mud baths should not be taken from the commencement.

The season at Teplitz is from June to August inclusive, the height of the season being in August, at which time a higher price is charged for the baths, and there is such a run upon them that they are occupied from morning till night, and require to be engaged in advance.

The climate of Teplitz is mild, and the neighbourhood interesting as well as beautiful.

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## Art. 93.—*On the Administration of Food and Medicine by the Nose when they cannot be given by the Mouth.*

By Dr. Anderson Moxey, M.D., M.R.C.P.

(*The Lancet*, March 20.)

Dr. Moxey recommends that in certain cases, and especially in the cases of obstinate lunatics, this mode of giving food and physic be employed. Having the patient kept motionless by two or three assistants, with the head perfectly still, and the chin slightly elevated, he thus proceeds:—Introducing the end of a small Wedgwood funnel gently into one of the nostrils, he pours the liquid slowly into it from a cream-jug or sauce-boat, pausing every now and then to let the patient take a full inspiration, and not allowing the fluid to accumulate in the funnel. A determined patient will generally be able, in spite of the reflex act of swallowing which ensues as the liquid trickles into the pharynx, to sputter a little of it out of his mouth. When this happens, Dr. Moxey pours the contents of the jug faster into the funnel, letting them accumulate in it so as to keep up a continuous series of acts of swallowing. In unusually troublesome cases he has also found it necessary to compress the other nostril, so as completely to obstruct all respiration through the nose. He considers that in all such cases a medical man should invariably administer the draught, as he alone can properly judge as to the extent to which it is necessary to interrupt nasal respiration, and of the number of acts of deglutition it is advisable to excite continuously.

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## Art. 94.—*On the Use of Ipecacuanha.*

By Dr. Weigersheim.

(*Schmidt's Jahrbücher der gesammten Medicin*, August 27, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

Dr. Weigersheim has shown that ipecacuanha root may be replaced by emetine, or even, in certain cases, by cold water, as employed in hydropathic practice. Warm water, drunk in moderate quantities, will often produce vomiting. Dr. Weigersheim also alludes to the fact that the smell of ipecacuanha often excites nausea, and that when mixed with

atmospheric air it causes, when it is breathed, remarkable oppression of the respiratory organs, such as hoarseness, sneezing, spasm of the glottis, and even spitting of blood and asthma. He therefore proposes the employment of ipecacuanha in small doses. He mixes twelve centigrammes of the root with eight grammes of sugar (a centigramme is the hundredth part of a gramme, which is equivalent to about fifteen grains of English weight), and divides the powder into twelve parts, and orders one part to be taken in water every five minutes until vomiting ensues. Nausea and even vomiting usually supervene after three or four powders are taken, but sometimes only after seven or twelve. If a powder is vomited immediately after being taken, another must be given at once. Dr. Weigersheim has applied this treatment with success as a preliminary remedy in those cases in which formerly every kind of emetic failed; and either by the continued use of the ipecacuanha or the subsequent administration of a full dose the desired result ensued. He also obtained favourable results from these small emetic doses in those cases of cholera in which an emetic was indicated.

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## Art. 95.—*On the Action of Tartar Emetic in small and long continued doses.*

By Dr. A. Nöbiling, of Munich.

(*Schmidt's Jahrbücher der gesammten Medicin*, November 4, 1868 ; and *British and Foreign Med.-Chirurgical Review*, April.)

The experiments made by Dr. Nöbiling on himself and on some of the lower animals relate not only to the operation of tartar emetic, but to that of each of its constituents, namely, tartaric acid, potash, and oxide of antimony. The experiments made on himself were by internal administration, and by injections into the subcutaneous areolar tissue and into the veins. The general results at which he arrived by these means were as follows:—Tartar emetic in small doses, from a milligramme ($\frac{1}{1000}$ of 15 grains) upwards, gradually excites in healthy persons very disagreeable effects, as oppression and weight in the præcordia, giddiness in the head, irritation of mind, weakness of the limbs, feverish shivering, inclination to sleep, frequent, irregular and full pulse, pale and sunken face, increased collection of mucus in the throat, and painful deglutition. After a longer use of the drug, there arise, together with loss of appetite and painful oppression in the stomach, short smarting pains in the bowels, frequent yawning, difficulty of breathing, and an unpleasant feeling of coldness on the skin of the trunk and on the extremities. The lower part of the body is extremely painful to the touch; the stools, which are at first normal, become gradually irregular, sometimes fluid, sometimes solid, but the urine is not much altered in its chemical characters. By a still longer use and gradually increasing doses of the tartar emetic all the phenomena are increased, the uneasiness is greater, the stools become thin and muco-bilious, the abdomen is swollen and very tender to the touch, the dulness of the hepatic region increased about a finger's breadth downwards, and this region is very painful on pressure, the heat of the skin is everywhere increased, and

there is also itching. There is difficulty of swallowing and increased secretion of mucus. Dr. Nöbiling made a series of experiments on frogs, dogs, and rabbits, in order to ascertain the action of the separate constituents of tartar emetic, and for this purpose he compared the results obtained respectively from potassio-tartrate of antimony, ammonio-tartrate of antimony, and sodio-tartrate of antimony, and also from tartrate of potash and tartrate of soda. These experiments seem to prove that the potash acts upon the heart, causing depression of that organ, for it was found, among many other experiments, that while a small dose of potassio-tartrate of antimony caused death in a frog, the same dose of sodio-tartrate of antimony produced no effect. Dr. Nöbiling draws the following conclusions from his researches:—1. There are two independent modes of action in tartar emetic, one on the heart and the other on the intestinal canal. 2. The action of the potash is on the heart, and that of the antimony is on the intestines. 3. Potash has a direct paralysing action upon the heart. 4. The tartaric acid is without any direct action upon the system. He goes on to observe that the effects on the heart and the pulse, and also on the liver, are due to the action of the potash, and that this is the active principle in causing death in fatal cases of poisoning by large doses of tartar emetic. He does not report favourably of the therapeutical employment of tartar emetic, which he thinks objectionable on account of the potash it contains, but he recommends the *ammonio-tartrate of antimony* as an emetic, because in this, as in the sodio-tartrate of antimony, only the action of the antimony is secured, and moreover this preparation is not decomposed in a watery solution.

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## Art. 96.—*On the Alleged Narcotic Properties of Narceia.*

By G. Fronmuller, M.D., and S. Kersch, M.D.

(*Schmidt's Jahrbücher der gesammten Medicin*, January 28; and *British and Foreign Medico-Chirurgical Review*, April.)

Although the narcotic effects of narceia have been lately announced by many authorities, as Claude Bernard, Debout, Béhier, Eulenberg, and Erlenmeyer, Dr. Fronmüller denies to the alkaloid the existence of this property. Soon after its discovery by Pelletier, Majendie and Orfila declared it to be inert, according to their experiments on dogs. Leconte observed in dogs, after the administration of narceia, a troublesome cough, and tenderness of the hind legs, but no cerebral symptoms. Dr. Fronmüller employed narceia twenty-two times, in order to procure sleep, care being taken that the alkaloid was pure. It was used nine times subcutaneously as hydrochlorate of narceia, and thirteen times internally as pure narceia. When used internally, and the dose was gradually raised to 20 grains, no narcotic effect was observed in any of the patients, and the breath, the pulse, the heat of the skin, the secretion of urine, and the state of the pupils were unaffected. Only in one case there was more sleep than usual, but no narcotism. After the two largest doses there was, on the following morning, only slight giddiness. Dr. Fronmüller thinks that even a drachm might be given without any result. The subcutaneous injections produced no effect.

Experiments instituted by Dr. Kersch, in Prague, on the lower animals, gave a negative result, and thus they confirm the views of Dr. Fronmüller. In none of the animals submitted to experiment was any trace of narcotism observed, either when the narceia was administered internally, or when it was injected into the pleural cavity.

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## Art. 97.—*On the Action of Papaverin.*

By K. B. Hofmann, M.D.

(*Schmidt's Jahrbücher der gesammten Medicin*, December 28, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

Dr. Hofmann has made some fresh investigations on papaverin, in consequence of its having been recommended as an agent in causing sleep and relaxing the muscles. He himself took the alkaloid in increasing doses up to six grains, and then he experienced a violent hiccough, which ceased in ten minutes, and subsequently an uncomfortable feeling in the pit of the stomach, and great pain in the forehead after eating, but no sensation of weariness or lassitude. In a second experiment with six grains, all the above symptoms were absent, except the oppression at the stomach. The conclusions at which Dr. Hofmann arrived as the result of his experiments were as follows:—1. Papaverin, in reference to its physiological action, stands very low in the rank of narcotic alkaloids, since in the case of none of them used in medicine does a dose of six grains, taken at once, remain inert. 2. Papaverin, in healthy subjects, does not produce, in doses of six grains, the slightest hypnotic effect. 3. It does not relax the muscles, inasmuch as neither at first, nor several hours after it has been taken, does it produce weariness or lassitude, &c. 4. It is not a cumulative agent, and produces no after consequences, so that when taken several days in increasing doses it causes neither sleep nor muscular relaxation. It exerts no striking action on the mental powers analogous to that of other narcotics. 6. The diminution of the pulse is very slight in healthy subjects, namely, about four beats a minute. 7. The breathing and the animal heat are very little altered. 8. Papaverin does not confine the bowels, and does not materially affect the secretion or excretion of the urine, or the elimination of water and chloride of sodium. 9. Whether papaverin shares with opium and morphia the property, when taken in large doses, of disturbing digestion, must remain undecided till further experiments are made.

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## Art. 98.—*Carbolic Acid: its Doses and Medicinal Value.*

By Henry William Fuller, M.D. Cantab., Physician to St. George's Hospital.

(*British Medical Journal*, February 20.)

In dyspeptic cases—of the fermentative class—accompanied by the copious evolution of gas from the stomach and the discharge of fetid

evacuations from the bowels, the effect of carbolic acid, Dr. Fuller writes, is often most satisfactory. Administered in six or eight-minim doses it stimulates and is extremely grateful to the stomach; it causes an immediate evacuation of flatus, and, by checking fermentation, it puts an end to the evolution of gas which forms the most distressing feature of many varieties of dyspepsia. With the exception of charcoal, Dr. Fuller knows of no remedy so useful in these cases, and it not unfrequently operates beneficially even when charcoal fails to relieve.

In typhoid or gastric fever, in which *à priori* beneficial results might have been expected from its employment, Dr. Fuller has been unable to observe any controlling influence.

In scarlatina, accompanied by sloughing throat, Dr. Fuller has employed it on one occasion, and fancied that it proved beneficial. Having regard to the action of the scarlatina poison on the mucous membrane of the stomach, it is not unlikely to prove active for good, and certainly deserves a trial.

In the form of spray, Dr. Fuller has used a solution varying in different cases from five to ten minims of the acid to an ounce of water for the purpose of inhalation. It has been employed in the early and advanced stage of phthisis, in so called laryngeal phthisis, in chronic bronchitis, in gangrene of the lung, and in various affections of the throat, including diphtheria. In the last named, it does not prove so useful as the pure solution of permanganate of potash administered in the same way, which sometimes appears to exercise a magical effect in clearing the throat of the membrane; but in all the other forms of complaint it exercises in many instances a decidedly beneficial influence. It lessens the irritability of the mucous surface and facilitates expectoration, and the patients aver that it affords relief. In gangrene of the lung, it removes the fetid odour, and otherwise appears to be productive of good.

The only disagreeable symptom which Dr. Fuller has observed to follow its employment in the form of spray, has been occasional faintness when the inhalation has been continued too long. The time at which this faintness occurs varies greatly in different cases. The patient should desist from inhaling as soon as the slightest discomfort arises. Dr. Fuller's impression, however, is, that this faintness is not induced by the action of the acid, but rather by the abnegation of atmospheric air which attends inhalation with Siegle's apparatus; for in every instance except one in which he has observed it, Siegle's steam-apparatus was being employed. He therefore prefers using the common hand-bellows, previously heating the solution of acid if the inhalation of cold spray seems likely to be prejudicial.

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## Art. 99.—*The Internal Use of Carbolic Acid.*

(*British Medical Journal*, February 13, 1869.)

At the London Hospital carbolic acid has been extensively employed by Dr. Andrew Clark. He believes it to be an agent of considerable

therapeutic value, and we subjoin short notices of some of the chief affections in which he has seen it to be of positive and permanent use.

In vomiting, Dr. Clark considers that carbolic acid holds rather a better place than creasote, and is most successful where the vomiting is associated with fermentations and catarrh. When the stomach is very irritable it must be given in pill, and in obstinate cases combination with morphia will succeed when each drug by itself has been tried and has failed. Dr. Clark thinks that if it do not succeed in one-grain doses, it will not succeed at all.

In the small, but often long-continued hæmorrhages issuing from gastric erosions, or from what has been called the hæmorrhagic ulcer, one grain of carbolic acid dissolved, with the addition of a little spirit, in two ounces of water, and given every two or three hours, commonly checks the bleeding at the third dose, provided the stomach be kept at rest.

In chronic gastric catarrh, when bismuth, silver, and acids have failed, success is sometimes obtained from carbolic acid. It is, however, almost exclusively in atonic cases that good is done; and in them the trial of the acid should be preceded by three or four days' employment of bicarbonate of soda, with or without a little hydrocyanic acid. The carbolic acid, moreover, should be given only in quarter-grain doses, much diluted, and upon an empty stomach. If it do no sensible good in a fortnight, it is not likely to succeed by longer use. In any case, it does not seem advisable to continue its administration beyond four or five weeks. After that time it interferes with digestion, and induces headache and general nervous irritability.

In two cases of waterbrash, when other remedies had failed, cure was effected by carbolic acid in grain doses given with bismuth and opium. In flatulence, whether gastric or intestinal, and due to the decomposition either of food or of secretions, carbolic acid acts occasionally with the happiest effect. It should, for this purpose, be administered in grain doses, made into a pill with flour and mucilage. Employed for the relief of flatulence, carbolic acid is of course in most cases more a temporary expedient than a means of permanent cure. That can be effected only by a due regulation of the diet, by iodide of potassium and alkalies where the starchy, and by pepsine and acids where the albuminous digestion is at fault. In those rare cases in which the flatulence is due to excess of mucus, and the decomposition set agoing by its constituent ferment, carbolic acid may be employed legitimately with the object of cure.

In chronic bronchitis, and in bronchorrhœa, the employment of carbolic acid is considered by Dr. Clark to be of great value. Internally it may be administered several times a day, in half-grain doses dissolved in water. It may also be used locally in the form of inhalation or of spray. In the form of inhalation by adding twenty drops of the deliquesced acid to half a point of boiling water, and inhaling the vapour; in the form of spray by dissolving a grain of carbolic acid in six ounces of water, making a spray by means of Siegle's vaporizer, and causing fifty inhalations to be taken twice or thrice a day.

In certain forms of phthisis in which there is much secretion either from the bronchial tubes or from cavities, and in which there is not

very much irritation, inhalation of the vapour of carbolic acid, diluted with steam, produces much benefit. In no phthisical case, however, can the spray be used with safety. In fact, Dr. Clark says that all his trials of carbolic acid sprays in phthisis have been followed by bad results.

Oozing hæmorrhages from the air passages are quickly checked by inhaling sprays of weak carbolic acid solutions; but as many such cases are associated with organic disease of the lungs, Dr. Clark considers that their use for this purpose is attended with considerable risk.

Dr. Clark has had little experience of the use of carbolic acid in fevers, and that little is either quite negative or unsatisfactory.

Of no use whatever in cholera, Dr. Clark thinks that carbolic acid alone, or in combination with other drugs, is of real use in the diarrhœas which accompany the march of that epidemic.

In addition to the internal administration of the acid in the cases mentioned, we may add that in the form of injection Dr. Clark has found the use of carbolic acid of the greatest advantage.

In discharges from the nose and throat, and particularly in ozæna and naso-palatine gland disease, he has employed the saturated watery solution with benefit. To secure its full curative effects, however, the parts should, in the first place, be irrigated by weak alkaline solutions, till all adherent mucus is dissolved, and then the naked mucous membrane will be more effectually acted upon by the carbolic acid water. The application of the fluid may be made in one of three ways: by means of Thudichum's admirable cistern-douche; by a special adaptation of Dr. Clark's spray-producer, which can be passed along the floor of the nose and be made to scatter its spray over the whole surface of the pharynx and back of the palate; or, better than by either of these plans, when it can be done by drawing the solutions through the nostrils into the mouth. In a few obstinate cases still amenable to cure by carbolic acid, the strength of the solution requires to be increased, and then a little alcohol must be used as the dissolving medium. The glycerine solution is not suitable in these cases; and as a rule when the weak solution fails the strong does not succeed.

In mucous diarrhœa, and in what is termed mucous disease of the large bowels, carbolic acid is a most successful curative agent when properly employed. It is necessary, in the first place, to use injections of solutions of chlorate of potash (five grains to the ounce) in order to dissolve and remove adherent mucus. In the next place, it is necessary to use the solution of carbolic acid (one grain to six ounces) in such a position of the patient, with the hips raised, as will permit it to reach the transverse colon, and to be retained for some time in contact with the mucous membrane. In cases of chronic cystitis, Dr. Clark has succeeded in curing profuse mucous, and sometimes bloody discharges through irrigations of the bladder, with weak solutions of carbolic acid (one grain to six ounces) made by means of a double catheter.

## Art. 100.—*Carbolic-Acid Treatment of Suppurating and Sloughing Wounds and Sores.*

### In the practice of Mr. John Wood.

(*The Lancet*, December 12, 1868.)

The carbolic-acid treatment has been employed by Mr. Wood in a good number of cases at King's College Hospital, *pari passu* with the more simple forms of water-dressing, and with no dressing at all further than simple cleanliness of the neighbouring parts. The carbolic acid has been used in various forms—namely, as a simple aqueous solution; as a solution in oil, as used in the French hospitals; and as mixture with putty, in the manner introduced by Professor Lister. The last-mentioned method has been employed especially in the treatment of compound fractures and of large chronic abscesses, with all the precautions against the admission of air, &c., recommended by Lister and Syme. A considerable proportion of cases have been attended with very satisfactory results; some have conformed in every respect with the theory of action promulgated by Professor Lister; but in a good number of instances, while the antiseptic action has uniformly been effective in utterly destroying putrefaction and fetor, yet in regard to its antipurulent properties such satisfactory results have not been obtained from the putty method. Suppuration has occurred in these cases to a considerable extent, though it is obviously difficult to say whether it would not have been more profuse in the same cases under another plan of treatment.

An observation having an important bearing upon the comparative value of the treatment has been made. When the treatment was first employed, the hygienic condition of the hospital was very good; and cases treated by the carbolic putty method, by simple water-dressing, and by no local application at all, did almost equally well. Many cases of chronic abscess, opened about the same time, and with the same precautions as to limited and valvular openings and the avoidance of rough handling or intermittent pressure, and with the same application of gentle, steady, and continued pressure by bandaging, got well equally rapidly, and with pretty much the same amount of consequent discharge. The same may also be said of the cases of compound fracture, in which the wound was limited and immediately covered up from the air by lint or collodion. Some time afterwards, in the autumnal months, the hospital air became vitiated; and notwithstanding the free use of carbolic acid in the waterclosets and wards, and in the water used for all purposes of ablution and disinfection, many of the cases treated with carbolic acid in exactly the same careful way resulted in free suppuration. One case of amputation of the thigh, followed by bedsore, treated throughout by the carbolic putty method, succumbed at last, after a prolonged illness, from pyæmic pneumonia of the lobular variety. Another case of operation for urethral fistula and phymosis, also attacked by the same disease, was more fortunate. The patient was placed in a separate ward, the floor of which was kept always sprinkled with Macdougal's carbolic powder, a thorough draught of air kept up by means of a fire and open windows, and the sulphite of magnesia administered internally, with

wine, brandy, quinine, and good diet. The local treatment throughout was by carbolic oil and putty. The patient, though of a debilitated constitution, and producing well-marked and copious rusty-coloured and muco-purulent expectoration, made a good recovery. It admits, perhaps, of dispute what proportion of this result was due to the carbolic treatment; but most surgeons would incline to the belief that its local and atmospheric or respiratory application had the largest share in the beneficial agency. A case of lumbar, another of psoas abscess, and a third of chronic abscess of the thigh, occurring about this time, continued to exhibit tolerably profuse suppuration during the carbolic treatment. It was also observed that the neighbourhood of the sore was apt to become affected with a dark-red, dusky inflammation, sometimes ending in separation of the cuticle. This was especially apt to follow the use of the carbolic oil, even when diluted to a strength considerably below that used in accordance with the recommendation of Professor Lister. It occurred also in cases where the carbolic putty was employed with every precaution to prevent its absolute contact with the skin, acting apparently by its vapour upon the surface. After a time, when granulations began to form in a sore, the effect of the carbolic acid or its vapour was decidedly to check, diminish, and even in some cases to destroy the filling-up process, which the removal of the carbolic acid at once and repeatedly altered for the better. In such cases, however, the suppuration was also always held in abeyance; but promptly returned when the carbolic dressings were discontinued. As an injection in gonorrhœa the aqueous solution of carbolic acid has uniformly been found too irritating to the urethra to be long continued, in most cases producing a marked increase in the pain after micturition, and in the inflammatory redness and swelling about the meatus urinarius.

Since the beginning of the year, Mr. Wood has used extensively a double carbolate salt, which was first (he says) manufactured at his suggestion.* This salt is the sulpho-carbolate of zinc. It is a definite crystallizable compound composed of the sulphate of zinc and the carbolate of zinc. Its formula is, according to an analysis made by Professor Bloxam, of King's College: $C^{12}H^5ZnO^2$, $2\,SO^3 + Aq$. Its most perfect crystalline form is right rhombic plates, of a flesh colour; and its more common form, as supplied by the maker, is in agglomerated amorphous masses of a pinkish-white colour. It is very soluble in water, and gives off no smell of carbolic acid whatever, either in the solid form or in solution. This salt, in aqueous solution of from three to six grains to the ounce, Mr. Wood has found of great service in all cases to which the use of carbolic acid is applicable as a dressing for wounds. It appears to combine all the astringent and detergent properties of the sulphate of zinc with the peculiar antiseptic and antipurulent properties of carbolic acid, and possesses the additional advantage of giving off the carbolic acid, in measure and gradually, by a slow decomposition of the salt, under the chemical influence of the discharges. In cases of gonorrhœa, Mr. Wood uses it from the very beginning of the symptoms as a solution of three grains to the ounce, frequently and copiously applied by means of a

* Dr. Sansom, we believe, first brought the sulpho-carbolates under public notice at the Obstetrical Society on Dec. 4th, 1867.

syringe. As the case advances or proves refractory, the strength of the injection is increased to five grains. The effect upon the purulent nature of the discharge is immediate and marked. At once it diminishes the quantity, and renders more transparent and mucus-like the quality of the flow. In recent cases, treated from the first and properly attended to, it rarely fails to complete the cure in a fortnight or three weeks. In cases which have been neglected previously to the adoption of this treatment, and in chronic cases of gleet, the duration of the treatment has been longer; and in some, accompanied by constitutional cachexia, or interrupted by inflammatory action in the neek of the bladder, it has while employed kept in check the discharge, but failed to suppress it entirely. In some the discharge has returned directly upon the remission of the injection, and upon its resumption has again nearly entirely ceased. Orchitis or bladder symptoms have not occurred in the cases in which it has been employed, in as great a proportion as in those treated by internal remedies or left without active treatment. As an application to herpetic and suppurating soft chancre it is equally effective as an antipurulent agent, and, combined with the administration of iodide of potassium, a speedy healing of the sore has followed. In these cases, and also those of hard chancre, Mr. Wood has employed the *strong carbolic acid* as an escharotic in the early stages, and approves highly of the results obtained. He has also used the strong undiluted acid with the same purpose as a subcutaneous injection in nævi materni, with unvarying success. Its action in such cases is prompt and efficacious in destroying all the tissues with which it is brought into immediate contact. It is at the same time very manageable, and leaves a dry eschar *without any suppuration*, and which, when it falls off like a scab, leaves a cicatrized surface beneath. In efficacy, manageability, cleanliness, and rapidity of results, it is, in these cases, infinitely superior to any other escharotic that has been tried. Mr. Wood has found it efficacious also as an escharotic injection in cancerous nodules of the skin and subcutaneous structures, causing them to shrivel and dry up.

The solution of the sulpho-carbolate of zinc has been extensively used as a dressing to wounds and sores in the practice of Mr. Wood. It removes all odour as promptly as the carbolic lotion, while it is less irritating, more detergent, has no smell, and as effectively prevents all fungoid or sporular formations in moist dressings during hot weather as the carbolic acid itself.

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## Art. 101.—*Carbolic Acid in the Sickness of Pregnancy.*

By Edward Garraway, Faversham, Kent.

(*British Medical Journal*, March 13.)

Carbolic acid is the only remedy which Mr. Garraway has ever found of any avail in pregnant sickness. Patients who have had it in one pregnancy, invariably ask for "that tar medicine" in the next. In other forms of sympathetic vomiting it has proved no less valuable. Mr. Garraway quotes the two most noteworthy cases he has met with:—

"Miss ——, aged nineteen, a highly hysterical girl, the subject of pelvic

abscess, had vomited every meal immediately after swallowing it for three years. Physic and physicians, of course, had been exhausted upon her. I gave a drop of carbolic acid three times a day. She retained this from the first. After ten doses had been taken—*i.e.*, on the fourth day—a meal was kept down; and from this time she retained alternate meals. In a fortnight, two meals out of three stayed; but the unwonted presence of so much food in the stomach occasioned such distress, that I was induced to partially withdraw the remedy, and allow two out of four meals to be rejected. The carbolic acid, however, was gradually persevered with; and, in the course of a year, the stomach was able to bear and retain four meals a day.

"Mrs. ——, at the eighth month of gestation, engaged me to attend her, and complained that she had been sick throughout her pregnancy. I declined prescribing, assuring her that the vomiting would cease immediately after delivery. However, it persisted as before; and she then informed me that for nine years she had never passed a day without vomiting, sometimes several times. This condition resulted from an attack of fever. I waited a fortnight after her accouchement, and then put her upon carbolic acid. She never once vomited again. The remedy was continued a fortnight, then gradually withdrawn."

Mr. Garraway gives drop-doses of the crystal, liquefied by heat, and diffused in half an ounce of thin mucilage, three times a day.

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## Art. 102.—*The Double Salts of Carbolic Acid.*

(*British Medical Journal*, March 13.)

At the last meeting of the Royal Medical and Chirurgical Society, an interesting paper was read by Dr. Sansom, on the properties of the double salts of carbolic acid. When the acid is used in an uncombined state, it is very caustic in large doses, and even when much diluted, it has a very irritant action. To obviate this, and yet retain the antiseptic properties of the acid, the author has prepared a series of definite compounds, in which sodium, zinc, or magnesium take the part of bases in conjunction with the sulphuric and carbolic acids. These salts are crystalline, readily soluble in water, have a distinct odour of carbolic acid; and, when treated with a few drops of a solution of perchloride of iron, give a dark-red colour, due to the sulpho-carbolate of iron.

Mr. Crookes, in his paper in the *Cattle Plague Report*, has shown most conclusively that carbolic acid has the power of destroying living germs; it will prevent the growth of the yeast fungus; it will destroy also (he believes) the germs in zymotic diseases. When the expired air of an animal suffering from the cattle-plague was passed through a tube which was loosely plugged with cotton-wool, the germs of the disease were entangled among the fibres. A plug so prepared was inserted under the skin of a healthy cow, and in a short time it suffered from the disease. If, however, the wool had been previously soaked in a solution of carbolic acid, no effect whatever seemed to result when a healthy animal was inoculated, as in the first case. From these experiments, it seemed to follow—1, that the actual poison which caused the disease was a material substance, which could be collected; and, 2, that

the noxious properties of this substance could be destroyed by carbolic acid, or by substances possessing like properties. It naturally occurred to medical men that a similar method of treatment might be of avail in zymotic diseases, or in the treatment of external wounds. Yet these hopes have not been fulfilled; and another time we shall attempt to show why this method of treatment has not been of as much use as was expected in curing zymotic diseases.

Dr. Sansom has found that the sulpho-carbolate of soda is the best salt to be given, and has prescribed very large doses, without producing marked effects of any irritant action. When this salt is administered internally, carbolic acid cannot be chemically detected in the urine, but only the sulphate of soda. When a person has taken the salt for some time, the urine becomes of a greenish tint, and will keep for a much longer period than usual without decomposition.

The author by no means proved that as yet any real good had followed from using these salts; nor did he give any cases of fever in which the course of the disease was cut short by the drug. In the discussion which ensued, the speakers had a vague idea that a better result had followed the use of the salt than when other remedies were given; but some, who had watched the action of the preparation in typhoid fever and pyæmia, and had carefully noted the course and duration of the disease, came to the conclusion that no benefit at all had resulted. Carbolic acid is no doubt most valuable in preventing disease; but whether, when the poison has once entered the system, it can then destroy it, is a question which can only be solved by experience. Our own observations would tend to make us by no means sanguine; but the treatment is one which should be fairly tried, and for this purpose the temperature of the diseases should be taken, as well as accurate notes of the cases, so as to see if these salts have any decided effect on the course of the disease.

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## Art. 103.—*Physiological Action of the Bromide of Potassium.*

### By H. P. Bowditch, M.D.

(*American Journal of the Medical Sciences*, January.)

Our contemporary, the *Boston Med. and Surg. Journ.* (Oct. 22, 1868), contains an interesting paper, by Dr. H. P. Bowditch, on this subject, giving the results of recent observations, and of some experiments made at the Massachusetts Medical School during the past spring by a class of students under the direction of Professor E. H. Clarke and Dr. R. Amory.

The author thinks that from these experiments and observations he may draw the following conclusions:—

1. The bromide of potassium is rapidly absorbed.

2. Though it appears quickly in the urine, it is upon the whole not very rapidly eliminated.

3. It is eliminated unchanged by the kidneys, the skin, and perhaps by the intestines.

4. It is sometimes decomposed in the system, and free bromine eliminated by the breath.

5. While passing into the system it acts as a local irritant on the surfaces through which it passes.

6. While in the system it acts as a vascular and nervous sedative.

7. While passing out of the system its primary effect is to diminish all the secretions, except perhaps the urine, but secondarily hypersecretion may be induced.

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## Art. 104.—*Bromide of Potassium and Antimony in Puerperal Convulsions.*

By T. N. Simmonds, M.D.

(*Medical Press and Circular*, February 24.)

Dr. T. N. Simmonds reports to the *Philadelphia Medical and Surgical Reporter* the history of a case of puerperal convulsions, in which the efficacy of these remedies was evident. A primipara, while in labour, with the head of the child in the inferior strait, was seized with a violent convulsion, which was followed by four others, with an interval of about fifteen minutes between each. Chloroform proving of no benefit, bromide of potassium was administered, beginning with a dose of forty grains in combination with half a grain of antimony. In combination with the bromide one-half grain of the antimony was given every hour and a half or two hours, until three grains of the antimony were taken. After the first dose there was a return of four paroxysms. The first occurred within an hour, the second in two hours, the third between three and four hours, and the fourth in eight hours. Their intensity and duration were also diminished in the order of their recurrence. Convalescence was rapid.

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## Art. 105.— *Cases Illustrating the Use of the Bromide of Potassium in Drachm Doses.*

By Daniel G. Burr, M.D., Assistant Physician to the New York State Inebriate Asylum, Binghampton, N.Y.

(*The St. Louis Medical and Surgical Journal*, November, 1868.)

In the first five of the cases related by Dr. Burr, the operation of the bromide in quieting the nervousness and inducing sleep was most satisfactory. In two cases particularly, almost every dose of the bromide was followed by a nap, which at first was of short duration, but grew longer and longer, until they declared that "they thought that they could sleep all of the time if they should take the bromide regularly." In one case the patient said that he was not susceptible to the hypnotic effects of opium, and that it produced contrary effects so severe, that he could get no benefit from its use. Dr. Burr finds that the bromide displays its powers as a hypnotic to the best advantage in this class of patients, while in others, and of these there are only a few, it produces but little if any perceptible effect. Dr. Burr thinks that it is

effective in lessening cerebral congestion when that congestion is in its incipient stages. When the congestion has lasted long enough to cause perversion of the faculties, as is evinced by numerous and various hallucinations, he thinks that its effects are very slight, if at all perceptible. Whether its power as a hypnotic is secondary, as Dr. J. H. Bill (in an article on bromide of potassium in the *American Journal of the Medical Sciences* for July, 1868) states, Dr. Burr does not pretend to say. So far as he has observed, there have been no ill effects resulting from the use of the bromide in drachm doses. Sometimes after using it steadily for a week, a lack of co-ordinating power is observed in the lower extremities, but it soon passes off with the discontinuance of the medicine. Nearly every case treated at the York State Asylum with the bromide, is accompanied with a diarrhœa or looseness of the bowels, which in some cases, Dr. Burr states, may require a little after-treatment, but generally subsides with the discontinuance of the bromide.

In a case of active delirium tremens, Dr. Burr thinks that he should place greater dependence upon opium than the bromide of potassium, while in the milder cases, or the so-called "Jim Jams," he thinks that there is no remedy that has equal effect with the bromide.

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## Art. 106.—*On Chloracetic Acid as a Caustic.*

By Dr. Urner, of Bonn.

(*Schmidt's Jahrbücher der gesammten Medicin*, November 25, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

The chloracetic acid is a powerful caustic, acting in some degree like nitric acid in this respect. Experiments made by Dr. Urner in practice are of a very encouraging character in respect to its use in such cases as warts, condylomata, lupus, &c. The pain caused by its application was but slight, and did not last long. The chloracetic acid belongs to the class of caustics which penetrate very deeply, and its operation is not inferior in intensity to that of fuming nitric acid. It is adapted for the burning of the smaller and larger neoplasms, as it can be applied both in a greater or less degree of concentration, and only on the spot required, and it does not affect the surrounding parts. Its application is not so powerful as that of many other caustics, whether stronger or weaker, and it excites no great inflammation of the parts: it leaves behind a moderate scurf, which is soon removed, leaving beneath it healthy granulations: the scars formed by it are moderately smooth, and subsequently undergo no great contraction: symptoms of poisoning by its use need not be feared; its operation can always be regulated, and small quantities are sufficient to procure an instantaneous and effectual cauterization. Nitrate of silver cauterizes less deeply than chloracetic acid, the cicatrization follows more slowly, and its application is more painful. Chloride of zinc and caustic potash cauterize more deeply than chloracetic acid, but their action is more extended, and attended with much greater pain. The best mode of applying the chloracetic acid is by means of a glass rod, or a glass or asbestos pencil.

## Art. 107.—*On the Sanguinaria Canadensis.*

By Victor Van der Espt, M.D.

(*Schmidt's Jahrbücher der gesammten Medicin*, November 25, 1868; and *British and Foreign Med.-Chir. Review*, April.)

The Sanguinaria Canadensis has been employed for some time in various diseases. All parts of the plant possess a certain activity; but in America only the root is used. It contains a large amount of orange-coloured resin, a red colouring matter which affords the so-called *sanguinarin*, and a small quantity of colourless fixed oil. This root, when dried, appears externally reddish brown, of a spongy texture on fracture, the broken parts being at first orange-coloured, and becoming brown in the air. The powder of the root is brownish yellow, of a slightly narcotic smell, and permanently bitter taste; it excites sneezing. In large doses it is a powerful irritant, and in small ones it causes in the mouth a sensation of heat, a bitter taste, and increased salivation; and in the stomach it causes irritation, a feeling of heat in the epigastrium, and improvement of the appetite and of digestion. It acts on the heart and vessels, increasing the circulation. In larger doses, as half a gramme to a gramme, it causes copious vomiting and a general feeling of weakness, and in larger dosess till all the above-mentioned symptoms are increased, and there follow gastrodynia, general weakness, prostration, and finally death. Dr. Van der Espt has found that it acts locally as a stimulant to indolent ulcers, and that internally it is a useful remedy in general weakness, especially after exhausting diseases, when the stomach requires a stimulant. It may often be used with success in small and often-repeated doses in acute bronchitis and pneumonia, when it acts like tartar emetic, and in hooping-cough as an emetic. It is especially recommended by American physicians, as well as by Dr. Van der Espt, in diphtheria and croup, especially at the onset of the disease, and in the first instance as an emetic. It is also successfully employed as an emmenagogue.

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## Art. 108.—*On the Employment of the Neutral Acetate of Potash in Acute and Chronic Gastro-intestinal Discharges.*

By Dr. Marotte, Physician of the Hôpital de la Pitié.

(*Bulletin Général de Thérapeutique*, November 30, 1868.)

Disorder of the mucous membrane of the stomach and bowels may take place with or without fever, and may be either acute or chronic. Physiological causes or pathological conditions may influence its degree, its tenacity, or its duration, but do not at all change its nature. The presence of the products of secretion on the visible mucous membranes, as the tongue and the buccal cavity, their discharge by the stomach or the anus, are the characters of disorders of the mucous membranes, as of all the varieties of gastro-intestinal discharges. But in practice it is well to distinguish two varieties, one in which the products of secretion are in such small quantities that the excretion is reduced almost to a

nullity, and occurs only at intervals more or less distant, sometimes voided by the stomach, but more frequently, although still rarely, by the anus. In the other variety the products of secretion are so abundant as to be evacuated almost daily, either by vomiting or by stool. It is in the first variety that the acetate of potash affords most relief, and under its use the clamminess of the mouth and the dryness of the tongue diminish; the stools are voided spontaneously from time to time, or are more easily excited by injections which were before inefficacious; the urine becomes less deep coloured, and the feverish excitement, and especially the exacerbations, are lessened. Dr. Marotte's memoir on this subject concludes with the following propositions:—The acetate of potash, frequently employed in the two last centuries, does not deserve the oblivion into which it has almost fallen; for without possessing the active properties of some other medicines, it is often of use, especially in gastro-intestinal discharges, as the author has proved by experience. It appears to possess a direct sedative action on the irritation of nutrition and secretion, which is the cause of these discharges. Its action does not seem to be the consequence of any appreciable phenomenon, and is manifest only by the diminution of all the morbid symptoms. All the forms and varieties of gastro-intestinal discharges are not equally benefited by its use, and it seems to be best adapted for the simple irritation of the secreting apparatus, without complications. It has a special action on the symptom vomiting, whether occurring in dyspeptic affections or in pregnancy; but its action is definitely exerted only upon the vomiting occurring in disorder of the mucous membranes (*état muqueux*). The dose necessary to be given in these cases should not, in the author's opinion, exceed 2 to 6 or even 8 grammes in twenty-four hours.

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## Art. 109.—*On the comparative Action of Preparations of Iron which are considered as Tonics.*

By Dr. J. Jeannel, of Bordeaux.

(*Gazette Hebdomadaire*, No. 10, 1869.)

1. All the soluble salts of iron, whatever the nature of their acid, may be absorbed by the stomach; those however which are very sapid and very astringent, as the sulphate and chloride, cannot be tolerated except in a very diluted condition; they are rather astringents than truly restorative tonics (Mialhe).

2. When assimilation of the steel and restoration of the blood corpuscles are the objects in view, we should prefer those preparations which are insoluble in water, and more or less readily soluble in the acids of the gastric juice (divided iron, the hydrate, the carbonate, &c.), or the slightly astringent soluble salts (the lactate, citrate, tartrate, pyrophosphate, &c.)

The bad odour following the ingestion of divided iron may be explained by the statement that the nascent hydrogen resulting from the decomposition of water by the metal in the presence of the gastric acids

enters into combination with the sulphur of the constituent albuminoid materials of the organic fluids (Mialhe).

3. The preparations of iron which are insoluble in water, and soluble in the acids of the gastric juice, should be administered with food, because food determines the secretion of gastric juice (Mialhe).

4. Metallic iron, the sesquioxide, and the salts of the protoxide of iron, when dissolved in the gastric juice, pass into the condition of iron salts, as they find themselves in the presence of a liquid acid containing oxygen in solution (Mialhe).

5. The ferric salts are decomposed by alkaline solutions, and consequently by the intestinal juices; absorption of ferruginous preparations in the form of aqueous solutions cannot be carried on in the intestines except with the citrate, lactate, citro-ammoniacal pyrophosphate, and the potassio-tartrate, which, not being precipitated by alkalies, can be absorbed by the intestines in the form of an aqueous solution.

6. The oxides of iron in the condition of hydrates are soluble in small proportions in fatty masses with which they form emulsions, and are afterwards absorbed by the intestines.

7. There exists, then, a double way of absorption for salts of iron:—firstly, the stomach, where they are absorbed directly in an acid aqueous solution; secondly, the intestine, where the precipitated oxide is dissolved, or at least partially so, in the fatty mass.

8. But as, on the one hand, the acidity of the gastric juice is very feeble, and, on the other, the solubility of the oxides of iron in the fatty mass of the intestines is very limited, it is useless to administer at one time strong doses of ferruginous preparations; all that cannot be dissolved by the gastric juice in the stomach, and by the fat in the intestines, must necessarily traverse uselessly the digestive tube, and act as a foreign body. The black colour which is always communicated to the fæces by ferruginous preparations converted into sulphate of iron, proves that a great part of the dose administered has not been absorbed.

9. With regard to the salts which are rendered stable by the citrate of ammonia, and to the potassio-tartrate of iron which is not precipitated by alkalies, these may be absorbed by the stomach and by the intestines. This fact explains why it is not indispensable to administer these preparations with food, and how they can be administered with utility in large doses.

10. The salts of iron which are not precipitated by alkalies, and the electro-negative element of which is not susceptible of destruction in the blood (the cyanide, ferro-cyanide, sulpho-cyanide of potassium and iron), resist all decomposition in the organism; these are eliminated in the urine, and do not act as restorative tonics (Mialhe).

11. The organic acid salts which are combustible in the blood, and those which resist the decomposing action of alkalies, are not eliminated in the urine; these are assimilated, and contribute to the reconstruction of the blood corpuscles (the lactate, the citrate, rendered stable by citrate of ammonia, the potassio-tartrate).

12. It is impossible to explain the chemical transformation which the pyrophosphate of iron and soda and the citro-ammoniacal pyrophosphate of iron, both undoubted reconstituent agents, undergo in the blood.

13. In laboratory experiments all the preparations of iron prevent

the digestion of fibrine by the gastric juice, with the single exception of the lactate; one will be led to the conclusion then that all the preparations of iron but the lactate are hurtful to digestion, but every-day clinical experience proves that great importance cannot rightly be attached to this result.

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## Art. 110.—*Lobelia in Rigid Os and Perineum.*

### By George Kilner, M.D.

(*Chicago Medical Journal*, December, 1868; and *New York Medical Journal*, April, 1869.)

Dr. Kilner, of Sullivan, Illinois, strongly recommends the use of lobelin, the active principle of the *lobelia inflata*, for the purpose of producing dilatation of the os uteri and perineum during labour. He uses it in the form of a rectal suppository, five grains of lobelin rubbed up with cocoa-butter q. s., and he states that fifteen or twenty minutes will usually suffice to bring about the desired effect. Notwithstanding that this is, perhaps, the most powerful relaxant in the materia medica, he claims that no danger need be apprehended from its use in this way, and supports his position by several concisely reported cases from his own practice.

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## Art. 111.—*Therapeutical Employment of Opium Smoking.*

### By M. Armand.

(*Medical Times and Gazette*, December 19, 1868.)

At the last meeting of the Académie de Médecine, M. Armand, a distinguished army surgeon, read a paper on the "Therapeutical Employment of Opium-smoking." He is well acquainted with the practice as it prevails in the East, and in 1865 published in the *Gazette Médicale* several papers upon the subject; and he observes that Sydenham, who stated that he would rather abandon the profession than give up the use of opium, would certainly have utilized the Chinese opium-smoking had he been aware of it. M. Armand, during several years' trial, having found it an easy, inoffensive, and very efficacious mode of treating chronic and neuralgic affections, is anxious to bring it more prominently before the profession. The pipe employed is quite peculiar in its construction, in nowise resembling that used for tobacco, and M. Armand not only described, but exhibited it in action to the learned body which he was addressing. A mere buccal aspiration does not suffice, the object being to make as deep and prolonged an inspiration as possible, so as to charge the bronchi with the opium smoke. This is essential, in order to effect the combustion of the opium and to derive advantage from this. The smoking is an agreeable operation even on the first attempt, and if the inspiration has not been too forcible no coughing is produced. In his own personal trials, M. Armand has found that he can smoke ten grains without any ill effect, but beyond this quantity it induces heat of surface and troublesome dreams. Keeping within the moderate amount of from

one to ten grains, a sedative and highly useful therapeutical action is procured, especially in chronic bronchitis and laryngitis, pertussis, asthma, nervous palpitation, angina pectoris, gastralgia, and enteralgia. Next in order come facial and dental and supra-orbital neuralgiæ and migraine, as also articular and muscular rheumatism; for it is to be noted that, besides its sedative action, opium-smoking carried to a high degree increases the temperature and induces diaphoresis. M. Armand has tried the effect of various opiated cigars, but finds that nothing but the vapour proceeding from the extract of opium burnt in the pipe produces the beneficial effects he has been adverting to.

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## Art. 112.—*Syrup of Iodide of Iron and its Preservation.*

(*Pharmaceutical Journal*, January.)

M. Jeannel, taking advantage of the power glucose possesses to reduce a persalt of iron at ordinary temperatures, recommends the following formula for the preparation of a solution of iodide of iron which shall remain unchanged by exposure to the air :—

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|---|---|
| Iodine | 8·2 parts. |
| Iron filings | 4·0 „ |
| Distilled water | 20·0 „ |
| Honey | 70·0 „ |
| Tartaric acid | 0·5 „ |

Mix the iodine, iron, and water in a flask, and when combination is complete, filter the green solution, and add the honey and tartaric acid. The product will contain 10 per cent. of iodide of iron. This preparation, after remaining exposed to the air in a phial simply closed with paper for two months, was still bright and free from colour. It contained no free iodine or ferric salt.

M. Jeannel has observed that the addition of one five-thousandth part of tartaric acid to syrup of iodide of iron, which has become bad, renders it clear, and at the same time notably diminishes its inky taste.

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## Art. 113.—*Tobacco as an Hypnotic in a case of Chronic Wakefulness.*

By E. A. Hervey, M.D., of Rossville, Staten Island, N.Y.

(*American Journal of the Medical Sciences*, January.)

Some years since Dr. Hervey was consulted by his brother, who had long been troubled with what appeared to be pleurodynia, attended with dull pain, somewhat increased at night. As opiates disagreed with him, always producing nausea and vomiting, or else restlessness and delirium, it was necessary to resort to some narcotic that would not give rise to such unpleasant consequences. After various unsuccessful experiments, Dr. Hervey determined to try tobacco, and advised him to smoke a cigar or pipe of Turkish or other mild tobacco previous to retiring at night. As he had never been in the habit of using tobacco in any form, and

having, moreover, a great aversion to its use, the effect of a few puffs was very marked, inducing a sweet and dreamless sleep. It is important to add that, in addition to pleurodynia, the author's brother had for many years been affected with what is termed *insomnia*.

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## Art. 114.—*Tobacco Smoke in Intestinal Obstructions.*

(*Medical Press and Circular*, March 10.)

Dr. Olive, of the Marseilles Dispensary, has had recourse successfully to tobacco-smoke injections in the case of a man, thirty-eight years of age, who, despite injections of purgatives, oil, and tobacco, and of cold applications, was given over to certain death. With the help of a bellows M. Olive introduced the tobacco smoke into the intestine; the tympanitis appeared to increase, but after a short time three dark fœtid stools were passed, and the patient recovered at once.

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## Art. 115.—*Sulphurous Acid in the Treatment of Pyrosis.*

By Henry Lawson, M.D.

(*The Practitioner*, September, 1868.)

In every instance, Dr. Lawson asserts, in which sulphurous acid has been employed, it has, in a very short time, completely arrested the water-brash secretion. It checks the excessive secretion, stops the vomiting, and lessens the epigastric dragging pain so often complained of. Dr. Lawson considers, provisionally, that its good effects are due to the production of ozone and the destruction of vegetable germs.

The doses of the acid (B. P.) vary from ℥xxx to ʒj three times a day, shortly before meals. Bitter infusions may be employed as a vehicle, but plain distilled water is best.

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## Art. 116.—*On Veratrum Viride considered as a Therapeutical Agent.**

By M. Oulmont.

(*Archives Générales de Médecine*, No. 12, 1868.)

Veratrum viride is employed by M. Oulmont in the condition of resinous extract, which is administered in one centigramme doses every hour until vomiting is produced. This occurs generally after the third dose, but sometimes not until the seventh or eighth.

Recognising the elective action of veratrum viride on febrile phenomena, M. Oulmont has administered this agent in cases of acute pneumonia, acute articular rheumatism, pleurisy, and typhoid fever. The following conclusions give the results which have been obtained :—

Veratrum viride acts directly upon the fever by lowering the pulse

* Memoir communicated to the Académie de Médecine, Oct. 27th, 1868.

and temperature. The pulse falls in the course of three or four hours by from 20 to 50 pulsations; the temperature sinks less rapidly; it descends for 1½ or 2 degrees only, in the course of three or four days. The necessary dose for obtaining these results is from 3 to 7 centigrammes daily; the drug must be administered hourly until vomiting is produced.

The action of veratrum viride is transient, and is not well marked until the administration of the drug has been continued over two or three days. From this it follows that in order to obtain lasting effects, veratrum viride ought to be administered during two or three days.

By its action on fever, veratrum viride is a rational antiphlogistic means for combating pneumonia, acute articular rheumatism, and pleurisy.

It exerts very evidently a favourable action in pneumonia, the mean duration of which is reduced to six days and three quarters; the mortality also seems to be less than that after other methods of treatment.

It exerts but an indirect action on the local condition by arresting the progress of the disease, confining it within its limits, and hastening resolution.

Its favourable action is less marked in articular rheumatism.

Its employment is contra-indicated in typhoid fever.

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## Art. 117.—*On the Value of the Nitrate of Lead in the Treatment of Sore Nipples.*

By J. G. Wilson, M.D., F.R.S.E., Professor of Midwifery in the Andersonian University, Physician-Accoucheur to the Glasgow Maternity Hospital, &c.

(*Glasgow Medical Journal*, May.)

From ample experience in the use of this substance—which has now extended over three years—Dr. Wilson feels satisfied of its superiority to any other agent which he has hitherto employed. He has found it in numerous instances to succeed, when tannin, gallic acid, zinc, benzoin, borax, &c., failed to produce the desired effect. He does not mean, however, to assert that it will always succeed, or that it is an infallible cure, but in his experience the cases were few and rare in which he was disappointed with the result of its employment. The mode in which Dr. Wilson uses the nitrate of lead is in solution, dissolved in glycerine or brandy. The following is the formula he generally employs:—

℞ Nitratis plumbi . . . . . gr. x.
Glycerini . . . . . ʒi. Solve.

This is applied freely to the affected nipple after suckling. Care must be taken to wash the nipple previous to the next application of the infant. This astringent lotion generally produces a sharp smarting pain for a short time, but this soon subsides. In superficial abrasions or excoriations especially, Dr. Wilson has found this application to have an excellent effect. In some cases of deeply fissured or ulcerated

nipples, a stronger solution is occasionally required. In such instances, the lotion should be thoroughly applied, by means of a small hair pencil, to the whole of the fissured or ulcerated surface. The employment of the nitrate of lead may, if necessary, be combined with other modes of treatment. In severe cases, for example, the application of a teated shield, so as to protect the nipple while the treatment is being carried out, is sometimes advantageous. On several occasions, when treating cases of more than usual obstinacy, Dr. Wilson has occasionally applied the nitrate of silver, collodion, or a solution of gutta-percha, and found them useful adjuvants.

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## Art. 118.—*Sulphite of Soda and Sulphite of Ammonia in Intermittent Fever.*

By W. J. Chandler, M.D.

(*Medical Record*, March 1.)

The author reports twenty cases of intermittent fever treated in the service of Dr. Austin Flint, at Bellevue Hospital, with the sulphite of soda and the sulphite of ammonia.

The following are the conclusions which he draws from these cases :—

1st. That in a few cases the paroxysms of intermittent fever are relieved, and possibly arrested, by the sulphite of soda or sulphite of ammonia

2nd. That in the large majority of cases these remedies fail entirely to arrest the paroxysms, or to lessen either their severity or frequency.

3rd. That these remedies require to be given in large doses for a length of time to effect any appreciable improvement.

4th. That, when given in doses sufficient to modify or arrest the paroxysms, they produce considerable irritation of the stomach and intestinal canal.

5th. That as remedies for intermittent fever they are in every respect vastly inferior to quinia.

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## Art. 119.—*The Oil of Yellow Sandal-Wood in the Treatment of Gonorrhœa.*

By H. W. A. Beach, M.D.

(*Boston Med. and Surg. Journal*, November 5, 1868 ; and *New York Medical Journal*, April, 1869.)

In ordinary cases of gonorrhœa, Dr. Beach writes, when the treatment has been commenced early, five to seven days have sufficed for a cure ; but if the patient has not been seen until the discharge and other symptoms were at their height, ten days or two weeks. In gleet, although the amount of discharge and inflammation might appear to correspond in different cases, the time occupied in curing it has varied much. The shortest has been six days, and the longest about six weeks, but they have averaged three weeks unless complicated with

stricture, when the relief has been only temporary. In ordinary cases, after the first series, an injection of tepid water has been used three times daily. Most of the cases related by Dr. Beach (over one hundred in number) have been treated with the oil of *yellow* sandal-wood; that of the white was not found to be effective; while that of the red has been successfully used in a few cases, but the cure has not been so rapid. The best and easiest method of administration is to drop the oil on sugar; for an ordinary case, ten drops three times daily, and for gleet fifteen drops. Dr. Beach has given twenty drops three times daily without any bad effects.

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## Art. 120.—*Phenic Acid in Syphilis.*

By Dr. Minteforte.

(*Giornale Italiano delle Malattie Venere;* and *New York Medical Journal,* April.)

Dr. Minteforte recommends the application to syphilitic ulcers of phenic acid in water, five parts to one hundred. Dr. Fidele de Fieri extols the deuto-phosphate of mercury, one grain a day, continued for two months, in tertiary syphilis.

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## Art. 121.—*Injections of Corrosive Sublimate for Constitutional Syphilis.*

(*Wochenblatt der k. k. Gesellschaft der Aerzte,* No. 49, 1868; and *British Medical Journal,* March 27.)

Dr. Grünfeld has recently given the results of extensive investigations made by Professor Sigmund on the treatment of constitutional syphilis by the subcutaneous injection of corrosive sublimate in solution. This method was applied in more than sixty cases of syphilis, in all of which the disease had been manifested by some exanthem. The injected solution consisted of one ounce of water containing four grains of corrosive sublimate. Of this from ten to fifteen minims—consequently, from one-twelfth to one-fifth of a grain of the salt—were used at one sitting. The usual quantity was fifteen minims. In every instance the injections were followed by a more or less intense burning at the seat of operation, which either quickly ceased, or gave way to a less severe smarting, which lasted for several days. An infiltration of the parts around the injected spot was also produced, and this persisted for several weeks. In some few cases, dermatitis, mummification, and suppuration resulted. According to Dr. Grünfeld, the parts of the body most fitted for these hypodermic injections are the sides of the trunk and the buttocks as high as the crest of the ilium; the parts least fitted are the extremities, particularly the surfaces of flexors. The general dispersion of these small quantities of corrosive sublimate throughout the organism was proved by the frequent appearance of stomatitis, in several cases after four or five injections; and by the presence of mercury in the urine. The statistics of sixty cases of syphilis treated

in this manner furnished several interesting results. The smallest quantity of the salt by which a cure was attained was one grain and three-quarters; the largest quantity was six grains and a half. The smallest number of injections was thirteen; the greatest number, forty-four. The maculous syphilides disappeared after an average number of eight injections; the maculo-papular eruptions, after fifteen injections; and psoriasis, after twenty-five. Dr. Grünfeld has derived from the above investigations the following general conclusions. 1. Subcutaneous injections of corrosive sublimate, applied in cases of constitutional syphilis, furnish favourable results. 2. They have the advantage of perfect precision both in the dose of the agent and in its application. 2. The facility of execution and the slight inconvenience to the patient are important advantages; whilst, on the other hand, the pain, the inflammation of the integument, and the suppuration, constitute a great disadvantage to this method of cure.

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## Art. 122.—*On the External Use of Nitrate of Silver in Orchitis.*

By E. Noble Smith, Senior House-Surgeon to St. Mary's Hospital.

(*British Medical Journal*, January 30.)

Mr. Smith uses for the first few days evaporating lotions, and gives a purge; he then applies with a brush a solution of nitrate of silver of the strength of one drachm of the salt to an ounce of distilled water, to the surface of the scrotum over the inflamed testicle. In all cases he has found, the following day, great relief to be experienced, and in the majority the pain to have entirely ceased; but the greater part of the swelling and hardness remained; these symptoms are removed subsequently, by attending to the general health, using lotions, and afterwards mercurial ointment—the patient all the while being able to continue his occupation, even when it is laborious. Mr. Smith has generally found one application sufficient; but if there be a slight return of pain, he uses the solution again. Every case which he has treated with nitrate of silver has ended most satisfactorily. The originator of this plan of treatment is Mr. Furneaux Jordan.

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## Art. 123.—*Nitrate of Silver in the Treatment of Uterine Polypi.*

By M. M. Eaton, M.D.

(*Medical Press and Circular*, February 24.)

Dr. M. M. Eaton (*Chicago Med. Examiner*) gives his experience in the use of the nitrate of silver in a case of uterine polypi which he treated successfully. The patient was forty-six years old, of a nervous temperament, anæmic, and emaciated. A digital examination revealed two

small polypi attached by a long pedicle to the margin of the os uteri. These were soon discharged spontaneously, and she was free from hæmorrhage for some months. An examination about a year after, revealed the uterus enlarged, and a considerable flow of blood mixed with pus. A sound producing an alarming hæmorrhage, a sponge tent was introduced and the os freely dilated. The finger being easily passed in the neck of the uterus, the whole surface was found thickly studded with polypi, from the size of a *grain* of wheat to a hickory nut. To these the solid stick of nitrate of silver was applied, and the sponge tent reintroduced, to act as a tampon. On removing the tent next day, several small polypi came away, and the nitrate of silver was again freely used and the os left open. On the fourth day of the use of the caustic all hæmorrhage had ceased, and the tumours in the neck were all found to be detached and discharged. The uterus was then syringed with tepid water, and caustic applied to the suppurating spots where the pedicles had been removed, at the same time giving tonics and good food. This treatment was continued ten days, when she began to flow again very freely, and an examination revealed two large tumours in the cavity of the womb about the size of an orange. Ergot was given to cause contraction of the womb and descent of the tumours, and nitrate of silver was applied locally. By this means the hæmorrhage was controlled, but the caustic was applied for about ten days, when by forceps they were removed and the uterus left empty, though enlarged. By tonics and generous diet the patient entirely recovered, and has had no return of the polypi.

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## Art. 124.—*On the Use of Coffee in Strangulated Hernia.*

(*Medical Times and Gazette*, January 2.)

Dr. Marchand, in an elaborate article on the therapeutic action of coffee,* has collected a sufficient number of cases of strangulated hernia in which this simple remedy has proved successful, to warrant us in recommending its further trial. It appears that in the Havana coffee has from time immemorial been employed for the reduction of hernias. A French surgeon, Durand (de Batignolles), when residing there, saw it several times applied with success, and on his return home in 1857, he tried the remedy in France. A hernia of thirteen years' standing became strangulated, and all ordinary means, as the taxis, ice, draughts containing belladonna, &c., proved ineffectual; an operation was decided on, when M. Durand declared that he knew a sovereign remedy, which he begged to be allowed to try. His offer being accepted, he ordered 250 grammes (about half a pound) of powdered roasted coffee to be added to twelve cupfuls of boiling water, and of this a cup was to be taken every quarter of an hour till eight cups were taken, after which half an hour was to elapse between each dose. After the fifth cup the patient felt gurgling in the tumour, and the ninth cup was fol-

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* Article "Café" in vol. vi. of the *Nouveau Dictionnaire de Médecine et Chirurgie*. 1867. Paris: Baillière. London: Baillière, and Williams and Norgate.

lowed by the spontaneous reduction of the tumour. This case was published by Triger in the *Gaz. des Hôpit.* for May, 1857, and, as might be expected, not only excited *un vif étonnement*, but led to further trials. In the following year (1858) Meyer reported the case of a man, aged sixty-two, in whom there was a spontaneous reduction of hernia after the sixth cup; Czernicki reported a similar case which yielded to the fourth cup; and Barasent described the case of a woman to whom, after twenty-four hours' vomiting, he gave coffee, and whose hernia yielded to the fourth cup.

In 1859 Rouzier-Joly, of Clermont-l'Hérault, published two cases in which he combined the coffee treatment with the local application of belladonna ointment. Although there was intestinal hæmorrhage in both these cases, from, as he thinks, the use of too large doses, he adds that we should not, on account of such accidents, renounce a remedy which is "as active as it is successful." In the same year we are told that "Sammert en Angleterre" reported another successful case. We suspect that some evil has befallen our compatriot's name in the hands of the French author.

In 1860 Paultrier, and in 1861 Lamare-Piquot (of Honfleur) and Cellarius, adduced additional evidence of the value of this remedy; but the two last-named writers differ as to its mode of action. The former holds that it acts by occasioning *decongestion* of the strangulated part of the intestine, while the latter thinks that it acts by exciting the contraction of the intestinal fibres, which thus gradually liberates the strangulated portion.

In 1864 Lamare-Piquot published his *Etudes Expérimentales de Médecine et de Chirurgie Pratiques: De l'Action Dynamique du Café et de son Emploi dans les Hernies Etranglées*, and this, so far as we know, is the latest work or memoir on the subject. If the above cases are worthy of credit, which there is no reason to doubt, surely coffee deserves a further trial in strangulated hernia before an operation is resorted to.

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## Art. 125.—*On the Therapeutical Value of Peroxide of Hydrogen.*

By Benjamin W. Richardson, M.D., F.R.S.

(*Medical Times and Gazette*, December 19, 1868.)

The solution of the peroxide of hydrogen, Dr. Richardson says, may be fairly considered a medicine which promotes glandular secretion generally, quickens the action of iron, and which, to a certain extent, represents mercury and iodine as a specific remedy for syphilis. Problematically it may be considered as having an influence on nervous function, preventing or reducing overaction. It deserves on this ground extended trial in epilepsy. It is useful as a means of relief in dyspnœa in cases where there is great destruction of the lung and deficient oxidation; but whether its effect is due to the direct addition of oxygen to the blood, or to a sedative action on the nervous centres,

or to the promotion of secretion from the liver and kidneys and the removal of temporary congestion, is not known.

*Mode of administration,—Dose.*—The solution of the peroxide containing ten volumes of oxygen is the best form for medicinal use; a trace of hydrochloric acid in the solution is of advantage, as the acid helps to retain the oxygen. Dr. Richardson prefers always to prescribe the solution simply with distilled water, for although there are many medicinal substances with which it is compatible if they are chemically pure, it is best not to run the chance of displacement of the oxygen by admixture.* The ordinary dose for an adult is from one drachm to four, but this may be gradually increased to six drachms or even an ounce. A free quantity of water should always be mixed with the solution when it is to be taken; if too concentrate it leaves a caustic metallic taste in the throat, and causes eructation.

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## Art. 126.—*The Hypophosphites in the Toothache of Pregnancy.*

By W. H. Sterling, M.D., of Burlington, N.J.

(*American Journal of the Medical Sciences*, January.)

The following case is related by Dr. Sterling.

"A lady under my care, in her first pregnancy, suffered most severely from toothache and facial neuralgia consequent upon the rapid decay of her teeth, which had previous to this event been very good, been kept with scrupulous care, and had not for years required any attention from the dentist, until about the fourth month from pregnancy, when they began to decay with great rapidity, so that in the course of a month seven were sufficiently decayed to need filling, and the neuralgic pain attendant upon their condition was such as seriously to affect her health.

"The ordinary remedies having been used with but merely momentary relief, it occurred to me as her organization was highly nervous, and nature, with wise prevision, ever takes care to supply the fœtus with proper and ample nutrition, even at the expense of the mother—that perhaps the bone and nerve-forming elements in her system were not sufficient to meet the wants of both mother and child, and hence the failure to provide for the molecular changes in the teeth, the material being used for the bony structure of the rapidly growing fœtus. Acting upon this theory, I prescribed the hypophosphites of lime, soda, and potassa, together with the hypophosphite of manganese (having previously given iron), in two grain doses each, three times daily, in the form of

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* To oblige Dr. Richardson, Mr. Robbins, of Oxford-street, who has for a long time made the peroxide of hydrogen, tested the compatibility and incompatibility of the peroxide solution with other medicines. He reports it as incompatible with all vegetable tinctures, and with the citrates and tartrates of the alkalies and of iron. With hydrocyanic acid it forms in a few days beautiful crystals of oxamide. With sulphate, chloride, and nitrate salts, decomposition is slow; but on the whole it is best in every case to prescribe the solution direct—*i.e.*, without admixture.

the glycerole. The relief was immediate and permanent, the pain entirely removed, and the decay of her teeth was arrested, and her general health was very much improved with the renewal of her physical strength and mental vigour."

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## Art. 127.—*Papaverin in Mental Affections.*

By Drs. Leidesdorf and Breslauer.

(*Vierteljahrschrift für Psychiatrie*, 1868; and *British Medical Journal*, March 27.)

The following conclusions have been derived by Dr. Leidesdorf and Dr. Breslauer from investigations made into the sedative and soporific action of papaverin on lunatics. 1. Papaverin acts upon man as a soporific. 2. It lowers the muscular power, and for this reason is beneficial in mania. 3. It diminishes the frequency of the pulse, both in cases where this depends upon violent muscular action, and in melancholic subjects who keep quiet. 4. The sedative action of papaverin is not preceded by a stage of excitement. 5. It does not produce, whether applied subcutaneously or internally, any vertigo or cerebral disturbance; it does not cause constipation, but in many cases has a contrary action. 6. The subcutaneous administration of hydrochlorate of papaverin does not cause any prejudicial action at the seat of injection, or in the neighbouring parts. 7. The action of papaverin is as a rule manifested slowly, from four to seven hours, in most cases, after the injection; and its power is not quite spent until after from twenty-four to forty-eight hours. 8. Papaverin acts effectually in cases where opium and morphia, even in large doses, have been administered without effect. 9. A toleration of this remedy does not take place early, and an increase in the dose is not required even after a prolonged use. 10. Papaverin acts as a palliative in cases of mental excitement, mania, and loss of sleep; on the mental affection, or rather on the morbid processes on which this depends, it exerts no direct perceptible influence. 11. The improvement in the nutrition of the patients, which takes place in many instances after a long-continued use of papaverin, depends upon the greater tranquillity and the restoration of sleep.

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## Art. 128.—*Muriate of Lime in Chorea.*

(*Gazetta Med. Lombard.*, January 16.)

Dr. Rodolfi says that, with ample opportunity of treating chorea at the Brescia Hospital, and after trial of the great variety of substances recommended for this purpose, he has come to the conclusion that the best of these is the muriate of lime, preceding its employment by a purgative, composed of castor-oil, calomel, and santonine. When no cerebral hyperæmia is present he then begins with the muriate, giving from seven to fifteen grains in the twenty-four hours. Improvement usually follows after the first day, and the cure is completed in from a

week to a fortnight. An addition of seven centigrammes per diem of the extract of belladonna augments the efficacy of the muriate.

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## Art. 129.—*Antigalactic Properties of Belladonna.*

(*The Medical Record*, October 1, 1868.)

Dr. D. W. Stormont, of Topeka, Kansas (*Leavenworth Med. Herald*), mentions two cases of mammary abscess, in both of which the secretion of milk was stopped by the application of belladonna (ext. belladonnæ ʒij, aquæ, f ʒj), painted over the breast. The lacteal secretion may be restrained, or entirely dried up, at the option of the physician, in one breast, without producing much effect in the other. Hence he considers it invaluable in mammary abscess, both as a prophylactic and as a curative agent. The patient should be cautioned against nursing the child from the breast to which the belladonna has been applied.

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## Art. 130.—*The Theory of the Dissolution of Calomel in the Organism.*

By M. Jeannel.

(*Journal de Médecine de Bordeaux*, Février, 1869; and *Gazette Hebdomadaire*, No. 12, 1869.)

According to the theory of Mialhe, which hitherto has been generally admitted, calomel, in the presence of the alkaline chlorides dissolved in the fluids of the organism, is gradually transformed into soluble bichloride of mercury, which is readily absorbed. M. Jeannel holds that this theory is insufficient, and gives the following views upon this subject:—

The alkaline carbonates are the chief decomposing agents of calomel; in the presence of alkaline fluids fatty bodies dissolve the oxide of mercury derived from the decomposition of calomel; the alkaline chlorides, even in concentrated solutions, cause but a comparatively insignificant decomposition of calomel.

If it be true, as has been indicated by Mialhe, that the chloride of mercury, under the influence of alkaline chlorides and at the temperature of the organism, always furnishes a more or less considerable quantity of corrosive sublimate, it would still be erroneous to hold with him that it is to this partial transformation that calomel owes its medicinal properties. In reality, a minute portion of administered calomel may be dissolved in the stomach in the presence of acids containing sea salt, but the principal and most considerable decomposition of the mercurial salt is certainly due to the contact of alkaline intestinal fluids. Next intervene fatty bodies. A long series of experiments has demonstrated to M. Jeannel that in the mixed fluids composed of water, an alkaline bicarbonate, and some fatty oil, a very notable proportion of oxide of mercury derived from the decomposed calomel, passes in a state of dissolution into the fatty mass; this oxide then loses the energy of its chemical affinities, and may become emulsionized and absorbed without

producing any local irritation. This theory explains how the action of the calomel may be slow and generally inoffensive. This action is almost null whilst calomel remains in the stomach in contact with acid and slightly chlorinated fluids; as soon as the medicinal agent has passed into the intestines, where the presence of an alkaline fluid may give rise to the formation of bichloride, its action will become pronounced, but then the albumen and the fatty mass at once intervene, and weaken or entirely prevent the irritating action of the soluble mercurial salt, and of the oxide resulting from the decomposition of the calomel. The mercury is absorbed in the form of an albuminate of a fatty salt.

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## Art. 131.—*Report of the Edinburgh Committee on the Action of Mercury, Podophylline, and Taraxacum on the Biliary Secretion.*

By John Bennett, M.D., F.R.S.E., Convener and Reporter.

(*British Medical Journal*, May 8.)

The steps of the inquiry, and the results brought out, are shortly as follows:—

1. The amount of bile in the fæcal evacuations bears no relation to the quantity secreted by the liver. Purgatives certainly increase the amount of unchanged bile in the stools, but this is because they augment the rapidity of its passage through the intestinal canal, and thereby prevent its absorption and decomposition. The idea that inspection of the fæces can inform us how much bile is formed, is therefore erroneous. The only method of determining this point is by making fistulous openings into the gall-bladders of animals, tying the common ducts, and measuring the quantity produced.

2. The history of what was previously known as to the amount of bile secreted in dogs, without and with mercury, was undertaken by Dr. James Rogers, a gentleman who had long practised medicine at St. Petersburg. He has an intimate knowledge of continental languages, and has made therapeutics a special study. He shows that, since the days of Haller, there is no well observed fact which indicates that mercury acts as a cholagogue.

3. All the operations were performed by Dr. W. Rutherford, who gives a minute account of the best mode of producing biliary fistulæ, and the manner of collecting the bile. It was not without many failures and repeated disappointments that the experience was acquired which at length enabled the Committee to arrive at greater success in a larger number of cases than has characterized any previous investigation of a similar character.

4. A special investigation was next undertaken and carried through by Dr. Rutherford, to ascertain whether the dog was capable of being influenced by mercury in the same way that man is. It would have been obviously useless to have entered upon so laborious an inquiry with this animal, unless that point had been satisfactorily ascertained. It is conclusively shown that the dog is affected by mercury exactly in

the same way as man; that he presents the same symptoms when affected by the drug; and that when poisoned by it the same post-mortem appearances are produced. A complete refutation is subsequently given to the opinions of those who imagine that observations on dogs can tell us nothing of the influence of mercurial preparations on the human subject.

5. Thus instructed, the Committee succeeded in making the most accurate observations as to the amount of bile secreted before and after the administration of mercury to dogs, employing all kinds of preparations of that drug, various doses, large and small, and introducing it internally and externally. Permanent biliary fistulæ were established in nine dogs, and the amount of bile secreted, before and after mercury was given, carefully noted daily. During the two years over which the investigation extended, not only were the quantities of bile collected compared with the weight of the animal and the amount and nature of its food, but they were in every case analysed, and the proportion of liquid, solid, and inorganic matters ascertained. The whole series of observations present us with the most valuable collection of facts now on record with regard to the functions of the liver. In addition to demonstrating that mercury is not a cholagogue, the Report points out the influence of purgation on the biliary secretion, its relation to consumption of food, to the weight and to the health of the animal, and in what way it is influenced by muscular movements.

6. With a view of exhausting all that had been alleged concerning the influence of drugs on the liver, the Committee investigated, in the same careful way, the action of podophylline and taraxacum; and clearly show that these drugs have not, any more than mercury, the slightest influence as cholagogues.

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## Art. 132.—*Curare in Trismus and Tetanus.*

By Professor Busch.

(*Medical Times and Gazette*, May 4.)

Professor Busch, of Bonn, gives us a record of his experience in the history and treatment of traumatic trismus and tetanus during the Bohemian war of 1866.*

The fights in Paris in 1848 brought one thousand wounded to the hospital, but none was attacked by tetanus. During the Schleswig-Holstein war, 1849, a single case came under the notice of Stromeyer. On the other hand, there were 86 cases during the Italian war of 1859, on the Austrian side, as Demme informs us, and even more—namely, 140—on the Italian side. The expedition to the Crimea occasioned the admission to and treatment of 12,094 wounded in the English hospitals, 19 of whom only suffered from subsequent attacks of tetanus.

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* Dr. Busch *On Trismus and Tetanus*, reprinted from the *Transactions* of the Rheno-Westphalian Association for Natural History and Science, 1867. (Verhandl. des Naturh. Vereins für Rheinland und Westphalen.) Pp. 15.

Three hundred and sixty-three such cases occurred during the great American war. The percentage of occurrences is largest in hot climates; for instance, Gilbert Blane states that 30 cases of traumatic trismus and tetanus happened during the West Indian war, when the number of wounded was 810.

Dr. Busch had 21 cases under his observation in his field hospitals. Twelve of them were in the castle of Hradek, where 500 patients were accommodated, 5 in the Lazaretto of Nechanic, where 600 were confined, 2 in Castle Prim, and 2 in Castle Stracow. Dr. Busch believes that special localities and overcrowding favoured the attacks. Almost all the cases were gunshot wounds of the lower extremities; this is partly explained by the timely removal to more distant hospitals of those who had wounds of the upper limbs.

The percentage of recovery is larger in tropical climates—at least Blane saved 43 per cent.; of Demme's cases 7 per cent. recovered; 7·4 was the percentage in the American war; of Busch's 21 cases 7 were saved—*i.e.*, 33⅓ per cent. The proportion is the more favourable the less acute the cases are. Where the symptoms become alarming on the first or second day of the attack, where the pulse rises to 90 to 120 beats, and the temperature exceeds 40° C., no hope is left. The intensity of the single attacks, the rapidity with which the convulsions spread from one group of muscles to the other, are of bad augury. When, shortly after the first warnings, the neck gets stiff, the teeth cannot be separated, when, soon after, the convulsions reach the trunk and extremities, and the tonic spasms change into clonic, the patients usually die. On the contrary, there is more chance of recovery when the mobility of the neck is only slightly interfered with, when the difficulty of opening the mouth increases slowly, when to the affections of the muscles of deglutition and mastication either no general convulsions supervene, or the muscles of the trunk and extremities suffer only at a late period and moderately. The time the disease lasted varied in Busch's cases from twelve days to a month.

Demme treated 22 cases with curare, 8 of which recovered; Busch 11 cases, 5 of which ended fatally. Of the 6 who recovered, 1 owed his health more to morphia given subsequently to the curare than to the latter. In very acute attacks Busch thinks it of no use to try curare; he treated his first 9 cases with morphia and inhalations of chloroform. He had one remarkably bad case where a quarter of a grain of morphia was injected every two hours, and the patient recovered, contrary to all expectation. The mode of exhibiting the curare was by subcutaneous injection; $\frac{1}{50}$ to $\frac{1}{30}$ grain of the pure article will suffice, injected every two hours. The 11 cases are related in which this was done, and the post-mortem appearances given in some. The author refers to the experiments of Humboldt, Brodie, and Voisin, made on animals, to the treatment of tetanus in horses with curare by Lavell (1810-12), and its first use in men by Vella (1859). The physiological effect of curare is paralysis of the ends of the nerves in the muscles; by this the electric currents are impeded from reaching these muscles. It seems that the peripheric ends of these nerves get earlier paralysed in those muscles affected with electric tension than in those not affected with tetanus.

The improvement of the patients is attested by the decreasing intensity of the convulsions. The patients themselves urgently requested the exhibition of the remedy as soon as they became aware of an imminent spasm by the increased rigidity of the muscles.

The author considers it desirable to employ in future the efficient component part of the remedy—the *curarine*. Sulphate of curarin was exhibited at a subsequent meeting by Dr. Preyer.

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## Art. 133.—*Tetanus treated with Calabar Bean.*

By Drs. Boslin and Curren.

(*Medical Press and Circular*, Feb. 24.)

Drs. Boslin and Curren (*Chicago Medical Journal*) have treated a case of acute traumatic tetanus of violent character with large doses of morphia and Calabar bean. For a portion of the time, a grain and a half of morphia and three grains of the powdered bean in glycerine were given every hour, with the manifest effect of quieting the patient and relieving the spasm. The patient recovered.

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## Art. 134.—*Treatment of Traumatic Tetanus by Calabar Bean.*

By C. Holthouse, F.R.C.S.

(*British Medical Journal*, March 6.)

At a meeting of the Clinical Society of London, held Feb. 26th, Mr. Holthouse related two cases of traumatic tetanus in which the Calabar bean extract was given in larger doses than had hitherto been considered compatible with safety, viz., three grains every two hours, and on one occasion as much as four grains and a half in a single dose. The first case, in which the large doses were given, recovered. The second, which was of a more acute character, died on the fourth day of the seizure, notwithstanding the physostigma had been given from the very first accession of the symptoms in grain and a half doses every hour, and the patient was for the greater part of the time fully under its influence. He remarked that, with our present knowledge of the pathology of tetanus, a successful issue could scarcely be looked for in those cases in which the peripheral nerves were deeply implicated, unless they could be acted on simultaneously with the cord. The Calabar bean diminished the excitability of the latter and of the motor nerves, but did not affect the sensory nerves; we wanted a remedy which would act similarly on these, and possibly opium, from its known paralysing effect on the nerves, might do this. The chief points of interest in the fatal case, in which the knee-joint was laid open by a large lacerated wound, were the almost entire absence of constitutional symptoms till the accession of the tetanus, and the absolute immunity from painful cramps which constitutes so striking a feature of the disease.

Mr. Bryant referred to a case in which he thought that the fatal result was due to the influence of the Calabar bean. He thought very

ill of treatment in acute tetanus, but drew attention to the possible utility of tracheotomy as preventible of the risk of death from spasm of the glottis.

Mr. Maunder in two cases failed to gain anything from the use of the Calabar bean; he had found more help from opium. Tetanus did not, he considered, especially attack the larynx, and he doubted if much good would come from tracheotomy, although it was an operation he thought deserving of a trial.

In reply, Mr. Holthouse observed that in tetanus patients either died suffocated during a paroxysm, or they died of exhaustion. If this suffocation was from spasm of the glottis, then opening the trachea would undoubtedly prevent death from that cause, but it was equally probable that death during the paroxysm arose from spasm of the diaphragm, and possibly of all the respiratory muscles. The symptoms which Mr. Bryant had detailed as occurring in his case were those which always precede death from exhaustion. Mr. Holthouse did not believe that the Calabar bean had anything to do with the death.

Mr. Callender referred to cases of tetanus treated by Mr. Wormald by active aperients, and to the good results which were thus obtained in many instances.

# PART II.—SURGERY.

## SECT. I.—GENERAL QUESTIONS IN SURGERY.

### Art. 135.—*On the Treatment of Carbuncle.*

By James Paget, D.C.L., F.R.S., Surgeon to St. Bartholomew's Hospital.

(*The Lancet*, January 16.)

Mr. Paget is opposed to "free incisions." He fully believes that *crucial* incisions do not prevent extension; that it is only a limited set of cases in which the incisions diminish pain; and that with regard to the time that is occupied in healing with or without incisions, the healing without incisions is very clearly and certainly a great deal the quicker.

Another method which Mr. Paget has occasionally tried, but of which he can only state the same general results, is that of subcutaneous incision. This has been supposed to have the same general effect as the other; and he thinks that the same general conclusions may be drawn respecting it: that it is a measure unnecessary in the treatment of carbuncle, and that it retards rather than hastens the healing. When Mr. Paget speaks thus of the incision of carbuncles, however, he does not mean to say that there is no condition of carbuncle in which an incision is not useful. Sometimes a carbuncle sloughs in its central part, with one continuous slough of integument holding in a quantity of pus. In that case you would cut through the slough, or through any adjacent part of the carbuncle, to let out the pus, as you would open an ordinary abscess. But this is not a measure which is commonly understood by the "incision of a carbuncle."

"In local treatment," Mr. Paget says, "one of the best things you can do, if the carbuncle is small, is to cover it with emplastrum plumbi spread upon leather, with a hole in the middle through which the pus can exude and the slough can come away. That, occasionally changed, is all the covering that a small carbuncle will need. It is difficult thus to cover the whole surface of a large carbuncle, and to keep it clean; therefore, I think that the best application for that is the common resin cerate. This should be spread large enough to cover the whole carbuncle, and over it should be laid a poultice of half linseed-meal and half bread. And, if you want to exercise your skill, learn to make that poultice well, and to put it on well, and to keep it in its place well. That mode of dressing the carbuncle, so far as the materials are concerned, will last through its whole course; but whilst the carbuncle is

making progress and discharging its slough you will find plenty of room for the exercise of considerable skill in dressing it, and filling up the cavities with soft substance spread with this ointment. Besides this, the carbuncles are to be carefully washed, especially with some deodorizing substance, as Condy's fluid, or weak carbolic acid, and the cavities may be syringed out with it. The importance of cleanliness is very great. With regard to diet, I am certain that there is no good to be obtained by large feeding or abundant stimulants. Of medicines I say nothing. Quinine, bark, and other medicines of that class, may be given if you please, or in case of evident need, and so may aperients; but there is really no need of them in an ordinary case of carbuncle. But there is one medicine which you may find very valuable, and that is opium, especially in all the earlier painful stages of carbuncle, in which it relieves the suffering as thoroughly as incisions, or anything I know. After the early stages even that is unnecessary, except for some patient who may be unable to sleep.

"But there is one measure in the treatment of carbuncle which is seldom employed, and yet is of great importance, and that is letting the patient have very free air. The general idea that carbuncles are very dangerous diseases has commonly led to the patients being entirely confined to bed and kept shut up in their rooms."

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## Art. 136.—*Experimental Studies on Burns.*

### By Dr. Gustave Wertheim.

(*Medizin. Jahrb. der k. k. Ges. d. Aerzte in Wien*, 1868; *Gazette Hebdomadaire*, No. 42, 1868.)

The most simple lesions may present on investigation many unexplained or imperfectly recognised points. This fact is demonstrated by the researches of Dr. Wertheim on burns. This observer has made a series of experimental and histological investigations on dogs of which the following are the principal results. The experiments were made on animals of medium size, and the cauterization or burning was caused by means of essence of turpentine or of boiling water, the dogs having been previously narcotized by chloroform or by the injection of tincture of opium into the crural vein.

Cauterizations or burns cannot be repeated often without compromising the life of animals. Generally after five or six experiments with burning the chest or abdomen the dogs died, sometimes in six days, sometimes in a few hours, according to the intensity of the cauterization.

The special *rôle* of the form of lesion was placed in relief by regulating experiments, in which parts of the skin corresponding in extent to that destroyed by burning were removed; in these cases the wounds were soon covered by granulations. In some dogs, two, five, and fourteen hours after cauterization the whole of the mortified part was removed. All the animals thus treated died in twenty-four hours.

The influence of burns upon the temperature is very remarkable. The temperature was taken by means of a thermometer slipped under

the integument and pushed as far as the region of the cauterized tissues. The temperature, which was generally about 35 degrees Centigrade in the normal condition, was raised in different cases to 54, 56, 64, and even 73 degrees Centigrade.

Every fresh cauterization produces an elevation of temperature. This is maintained for a short time, but the temperature gradually becomes normal in about an hour, or even a half hour. When the cauterization extends over an extent of about two inches, the general temperature of the animal is raised above the normal standard. The histological changes were carefully studied. With regard to the integument, there is carbonization of the horny epidermic layer, and of part of the layer of Malpighi. The structure and elements of the papillary bodies, on the other hand, are maintained. By the side of the capillaries may be seen abundant deposits of melanine in the form of molecular granulations or rounded masses. After repeating the experiment on the skin of a corpse, changes are observed in the epidermis, which are altogether analogous, but the deposits of melanine in the dermis are no longer so abundant; there is scarcely more than some traces of this substance. The kidneys, in all cases where the animal has succumbed after repeated burning, are the seats of a degeneration which presents the characters of acute desquamative nephritis. In the corpuscles of Malpighi are found coagula, in which the blood elements are amorphous, agglutinated, or tending towards the crystalline form.

In one case the capillaries of the arachnoid contained a number of crystals formed from the blood. In other respects the blood changes constitute one of the most constant anatomical characters. The blood contains a considerable quantity of corpuscles, from the size of from four to one millimetre, and even less, almost representing molecular granulations. Those corpuscles, from their colour and from their chemical and optical characters, ought to be considered as formed by the red corpuscles of the blood changed by the high temperature of the burnt parts. These changes exactly resemble those which have been described by Dr. Max Schultze, who examined the blood of different animals and of man. In severe burns the temperature of the parts contiguous to the eschar often attains a height of 52 degrees, and remains at this point for nearly half an hour. During this time the blood circulates and the globules undergo morbid changes. This is the only possible explanation of the above-mentioned phenomenon, according to Dr. Wertheim, who, foreseeing that the changes might be attributed to the injection of tincture of opium into the veins, made analogous investigations under chloroform, when the same morbid changes were found.

It is interesting to consider these results in connexion with those which have been gained from experiments made on congelation, and which also demonstrated blood changes in the congealed parts. It will then be seen that the theoretical explanation, admitting in cases of burns and of congelation the possible transport of altered elements, is now supported by a series of experiments, and that capillary embolism in injuries from cold, as well as in burns, are the cause of many of the serious complications of these lesions, such as duodenal ulcerations, pulmonary and renal infarctions, &c.

## Art. 137.—*On the Treatment of Wounds by the Application of Carbolic Acid on Lister's Method.*

By Timothy Holmes, F.R.C.S., Surgeon to St. George's Hospital, and Lecturer on Surgery; and W. B. Holdernesse, House Surgeon to the Hospital.

(*St. George's Hospital Reports*, vol. iii.)

In this paper Messrs. Holmes and Holdernesse relate the results of the application of carbolic acid in the practice of the former surgeon, and in the out-patient room. The results, it is stated, are not in themselves striking; nor can it be affirmed decisively that they are better than would have been attained under the ordinary methods of treatment.

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## Art. 138.—*On the Antiseptic Treatment of Wounds.*

By William MacCormac, M.A., M.D.; Fellow of the Royal College of Surgeons in Ireland; Member of the Senate of the Queen's University in Ireland.

(*Dublin Quarterly Journal*, February.)

The results Dr. MacCormac at first obtained after the carbolic acid treatment were, he states, not so satisfactory as he had been led to anticipate; but on further and more careful trials, more decided benefits were realized, so much so as to lead him to attribute his previous ill success to want of familiarity with the method, or perhaps to some carelessness in the application of the dressings. The mode of dressing he has usually employed is not so complicated as that of Professor Lister, since the use of putty or plasters is, in most instances, dispensed with. The wound, all hæmorrhage having been carefully stanched, is first washed out with a weak solution, one part in thirty of carbolic acid, the edges are then coapted, and several layers of lint, soaked in carbolic oil, one part in four, applied. The only other precaution needful is to keep the lint daily freshened with oil, and in this way its antiseptic properties seem thoroughly preserved. In cases of compound fractures the simple superposition of some folds of lint soaked in oil, has proved adequate to prevent septic change, without injecting the acid into the wound. In these cases there is usually profuse hæmorrhage, and when the wound is small the air is washed out with the blood, so that it appears to him to be in most instances unnecessary, and therefore undesirable, to inject the acid. When abscesses are opened Dr. MacCormac does not generally think it needful, before incising them, to apply an antiseptic veil of lint. The tension of the parts causes the pus to jet out with more or less force, and so long as any regurgitation of air is prevented no harm can accrue.

Dr. MacCormac gives the details of several cases in which he has used carbolic acid dressing. He has employed it in various ways to wounds, after opening abscesses, as an application to non-infecting venereal sores, and to phagedenic and other ulcers, with very beneficial

effects. Sometimes he has met with disappointment, but generally the results have been extremely satisfactory and encouraging.

The conclusions Dr. MacCormac is disposed to draw in respect of the surgical uses of carbolized dressings are—first, that by their means those conditions which promote the formation of pus are sometimes wholly prevented, at other times greatly diminished in power, and that when pus is formed it proves an innocuous fluid, not prone to decomposition, and not injuring by its presence the wounded surface with which it is in contact. Secondly, he thinks the amount of pus is diminished where suppuration does occur. Thirdly, he has been much struck by the absence of those results of serious injuries, which so usually ensue both in the neighbourhood of the wounded parts and constitutionally. He has observed over and over again the almost total absence of pain, inflammatory swelling, and surgical fever where such might otherwise have been expected to occur. In extensive injuries, involving the deeper-seated parts, it has appeared to him that those structures heal more readily, and that the wound soon becomes merely superficial, a granulating surface closing in and protecting the tissues beneath. When this result is attained it then becomes no longer necessary to continue rigidly the antiseptic treatment, and the wound may be treated like any ordinary superficial ulcer, with such applications as may appear best suited to promote healing, amongst which the carbolized lotion should occupy a high place. Fourthly, Dr. MacCormac is disposed to believe that pyæmia will become comparatively of rare occurrence, but to establish this as a certain fact, he says, will require a very long series of observations.

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## Art. 139.—*A New Surgical Dressing.*

### By D. Hayes Agnew, M.D.

(*Pennsylvania Hospital Reports*, 1869.)

"A few months since my attention was drawn by Dr. Studdiford, of Lambertville, New Jersey, to a form of paper which had been manufactured, for some purpose (I know not what), by a firm in his town. It was constructed from coloured rags decolorized by chloride of lime, and the pulp passed into sheets. The doctor thought it might be used as a surgical dressing, and had, I believe, actually applied it in a case of amputation. Being on duty at the time in the hospital, a favourable opportunity was offered for a practical test of its value. We had some prepared as soft as possible in its texture.

"The first experiment I made was designed to determine its absorbent property as compared with lint. Two strips, the one of lint and the other of the paper, were cut of equal length and breadth; these were suspended over vessels containing the same quantity of water. As soon as the strips and water were brought in contact the imbibition commenced, that of the paper with great rapidity, that of the lint slowly. When their thorough saturation was completed it was found their capacities were equal, with the important difference of one-half in time in favour of the paper; that is to say, square inches of paper and lint will receive just

equal quantities of fluid, but the paper will take its equivalent in one-half the time required by the lint.

"A second experiment was performed, in order to determine the cohesiveness or strength of its texture. A piece of the paper was saturated with moisture, crushed together roughly, and then thrown into a vessel of water, and allowed to macerate for several hours. When removed it was unfolded and spread out into its original form, without separation in the continuity of its parts.

"Desiring next that this dressing should have a surface impermeable to moisture, I desired the manufacturer, through my friend Dr. Studdiford, to apply a thin film of rubber over one surface. This was soon done, and so neatly as in no way to destroy its pliancy. Thus prepared I have used it in the hospital, and claim for it the following advantages:—

"1. It is the cheapest dressing, costing from twenty to twenty-five cents per pound, while lint costs two dollars per pound. These figures, however, do not exhibit the proper difference, as the paper is almost double the weight of the lint; but estimating it at double, it would stand—lint two dollars per pound, paper fifty cents per pound.

"2. It absorbs so much more rapidly than lint that wounds are kept freer from their secretions and discharges.

"3. Where lotions are required and evaporation avoided, the paper answers both ends, by having one surface water-tight, thus rendering the usual covering of oiled silk unnecessary, another item of saving, and one of no inconsiderable amount in a hospital."

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## Art. 140.—*The Treatment of Joint-Affections by Continued Extension.*

### By Professor Volkmann.

(*British Medical Journal*, March 27.)

Professor Volkmann reports favourably of the method of continued extension in the treatment of diseases of certain joints. He has applied it with great success for hip-joint disease and affections of the vertebral column. In disease of the knee-joint, the results of this proceeding have not been found equally satisfactory. The cases in which continued extension was practised by Volkmann were generally those of acute, painful, and rapidly progressive coxalgia, and Pott's disease of the spine without much deformity. Anchylosis, extensive infiltration of the soft parts, periarticular suppuration, and chronic disease accompanied by formations of granulations between the bones, are all contra-indications of this plan. The application of a weight, generally a sand-bag, to the extremity of the affected limb, in disease of the hip, removes pain and the tendency to muscular contraction, and also, by bringing the femur parallel to the axis of the body, serves to prevent great deformity and a faulty position of the thigh with regard to the pelvis. Professor Volkmann bases his practice upon the view that ulceration in joint-disease is produced by the close contact and pressure of inflamed synovial and cartilaginous surfaces. This, he thinks, is proved by the facts that

the caries is most intense at the hard parts placed in contact, and that a cure is generally brought about after luxation of the limb, after resection, and even after removal of only one of the diseased articular surfaces.

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## Art. 141.—*Forced and Prolonged Flexion of the Limbs in Traumatic Hæmorrhage.*

By M. von Adelmann.

(*Presse Belge*, January.)

M. von Adelmann, of Dorpat, in a paper laid before the Belgian Academy of Medicine, and founded upon ten cases occurring in his practice, arrives at the following conclusions:—1. Forced flexion is a valuable means of arresting traumatic hæmorrhage. 2. It should be employed before having recourse to other hæmostatic agents. 3. It may be resorted to even in cases in which ligature of the artery has failed. 4. A knowledge of its mode of application should be popularly diffused, so as to allow of its being at once adopted while awaiting the arrival of the surgeon. 5. Such knowledge may also be very useful in armies. 6. It is very desirable that manuals of surgery should bring the subject into prominent notice.

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## Art. 142.—*On the Treatment of Suppurating Joints by Free Incisions.*

By Thomas Bryant, F.R.C.S., Assistant-Surgeon to Guy's Hospital.

(*Medical Times and Gazette*, May 15.)

The practice of making a free incision into a joint, Mr. Bryant writes, is only justifiable when disorganization or suppuration has taken place, whether that suppuration be the result of a chronic disease or of an acute one following a wound of the articulation.

In acute suppuration of a joint the result of a wound, the author believes there is no better practice to be followed. A free incision into the articulation under most circumstances not only is the best local treatment, but the best general, for it seems to be true that, as soon as a free outlet for pus has been made, surgical fever, although intense, may be expected to subside, and local symptoms to pass away. The incisions when made should, however, be free, that the escape of pus may be complete. By this practice joints will be often saved, and movement secured.

In disorganization of a joint, the result of chronic disease, the plan of treatment by a free incision is not, however, so simple; for its value, as already indicated, depends much upon the original seat of the disease. When the disorganization of the joint has been secondary to disease in the articular extremity of the bone, to acute or chronic inflammation terminating in necrosis, partial or complete, it is not to be expected

that a recovery is to take place by giving free exit to the suppuration in the joint, for the cause of this suppuration will remain after the adoption of the practice, and thus keep up the irritation and prevent a cure. The incision may relieve the symptoms, but will not cure the disease or do much towards hastening anchylosis. Nothing but the removal of the diseased bone, either after incision, as in an ordinary operation for necrosis, or by resection, will be of use; for the disorganization of the joint is clearly the result of disease of the bone, and the seat of the disease must be made out before the correct treatment can be applied. An incision as an exploratory operation may, however, be of use in the case, for it may facilitate the removal of the diseased bone, and thus hasten recovery. When, however, the disorganization of the joint has been the result of disease in the synovial membrane, the value of a free incision into the articulation is very great, for in these cases, although the disorganization may be complete, the disease in the bone will probably be only superficial, and will rarely be found to extend far into the cancellated tissue. The disease in the bone is the result of synovial mischief, and will consequently recover when the source of disease has been removed, and the pus has been evacuated from the joint. Indeed, it is in disease of the synovial membrane of the pulpy kind, in which suppuration has taken place, that this practice of making free incisions into the articulation is carried out with the greatest advantage. Several cases are related in which the truth of these remarks is demonstrated.

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## Art. 143.—*A Case of Tetanus following Compound Fracture of the Arm; Recovery.*

### Under the care of Mr. Tatum, St. George's Hospital.

(*The Lancet*, December 19, 1868.)

The following very interesting case illustrates the successful treatment of traumatic tetanus by the subcutaneous injection of atropine and morphia.

George B., aged forty, a cab-driver, was admitted into St. George's Hospital, having fallen from his cab whilst drunk. The lower end of the right humerus was fractured in several places, one fracture apparently running into the joint. On the inner side of the arm, a short distance above the inner condyle, there was a wound an inch long, communicating with the fragments. The limb, which was much bruised and swollen, was put up in an angular splint, and the patient was placed upon ordinary diet and a pint of porter. He went on well until the fifteenth day, when he complained of pain in the arm and stiffness of the jaws, which gradually increased; and two days later—namely, on Jan. 30th—he was unable to open the jaws more than half way. There was, however, no stiffness of the neck, or pain in the epigastrium; and his countenance and demeanour were tranquil. The bowels being confined, a turpentine enema was administered.

The patient continued in much the same state until the 2nd February, when his appetite began to fail, and the trismus slightly increased. He

was ordered wine and eggs, and at 10 P.M. was injected with $\frac{1}{40}$ gr. of sulphate of atropine.

On the following day the jaws were firmly closed; the arm "jumped" a great deal, and he had slight vertigo. The pupils were somewhat dilated. The injection was repeated at 10 A.M. and 10 P.M., a blister applied to back of neck, and nutrient enemata ordered.

Feb. 4th.—The arm still "jumps;" has twitchings of all the limbs, and pain in the epigastrium. The jaws will allow the protrusion of the tip of the tongue, which is clean and moist. Pupils less dilated; pulse 72, weak; respiration 20; temperature in axilla 97°·7. At 3 P.M., $\frac{1}{30}$ gr. was injected, and at 7 P.M., $\frac{1}{25}$ gr.

5th.—Has had a very restless night; the trismus remained, and deglutition was difficult; the mouth drawn to the right side; pulse 84, soft; respiration 24; temperature 98°·1. $\frac{1}{20}$ gr. was injected at 1 A.M. and 10 A.M., and $\frac{1}{40}$ gr. at 2.20 P.M. The turpentine injection was repeated.

6th.—Was very restless during the night; the trismus continues, rendering it difficult to get anything into the mouth, but there is no pain in swallowing. Still has pain in the arm and twitching of the limbs; tongue rather coated; pulse 104, soft and small; respiration 22; temperature 98°·2. At 10 A.M. and 10 P.M. the injection of $\frac{1}{20}$ gr. was repeated; brandy, four ounces; beef-tea, four pints.

7th.—Passed a less restless night; the spasms are more frequent and severe; trismus same; tongue coated; no appetite; pulse 112, soft; respiration 24; temperature 98°·1. Sulphate of atropine, $\frac{1}{60}$ gr.; bimeconate of morphia, $\frac{1}{6}$ gr.; distilled water, six minims. Mix; send two drachms of this solution. At 10 P.M. seven minims of solution were injected.

8th.—Patient slept during the greater part of the day, and he was not disturbed for the purpose of taking notes; spasms reported to be less frequent and severe. Brandy, eight ounces daily. The injection was repeated at 10.30 A.M., 4.15 P.M., and 10 P.M.

9th.—The severity of the spasms has decreased, and there is less twitching of the limbs. The trismus is well marked, and the sterno-mastoid muscles are rigid, but there is no opisthotonos or pain in the epigastrium. Skin cool and moist; bowels open; pulse 112, soft; respiration 21; temperature 99°·4. At 10 P.M. thé injection was repeated.

10th.—Has had a restless night; occasionally has sharp pain in the left side of the abdomen. The arm aches a great deal, but there is less trismus and rigidity of the sterno-mastoids, and the spasms generally are much less distressing; sweat acid; bowels open.

11th.—The arm and elbow are a good deal swollen; tetanic symptoms improved.

12th.—The arm is more swollen; the spasms are diminishing; deglutition fairly easy; pupils normal; pulse 96; temperature 99°. At 10 A.M. and 10 P.M. the injections were repeated.

During the next two days the symptoms continued about the same. The extensors of the thighs were chiefly affected, and the slightest touch would bring on spasms. The swelling of the arm increased. The injections were repeated morning and evening. A turpentine enema was administered.

15th.—An abscess was opened on the inner side of the elbow, from which a considerable amount of fetid pus escaped. Pulse 92, weak; respiration 20; temperature 99°·3. Injections repeated as before.

The next day patient was much the same; and on the 17th the trismus had almost gone; there was no risus, the muscles of the neck were lax,

and there was but little spasm of the limbs ; appetite good ; skin cool and moist : tongue clean ; bowels open ; pulse 112 ; respiration 24 ; temperature 100°·3. Injection repeated at midnight.

On the following day there was an increase of the spasms, and there was slight trismus ; pulse 100, weak ; respiration 20 ; temperature 98°. At 12 P.M. the injection was repeated.

On the next day the spasms had ceased, and from this date the patient gradually improved. The muscles of the limbs, however, were occasionally attacked by spasm, more especially the extensor of the thighs ; and there was more than once a recurrence of trismus, with rigidity of the muscles of the neck. By degrees all these symptoms subsided, and on the 25th the patient was able to sit up in bed. Several times at about 3 A.M., he suffered from slight pain in the elbow and front of the thighs. On the 28th there was a total absence of all tetanic symptoms, and there was no recurrence of them after this date. On March 13th the patient was discharged, with his general health fairly good.

There was a great deal of thickening of the lower end of the humerus, and slight shortening of the arm ; but there was some amount of motion of the elbow-joint.

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## ART. 144.—*Researches on the Results of Section and Resection of Nerves in relation to the state of Sensibility of the Integuments and of the Peripheral Extremity of the Divided Nerve.**

By MM. S. ARLOING and TRIPIER.

(*Gazette Hebdomadaire*, No. 50, 1868.)

A certain number of clinical facts have recently been published, which tend to demonstrate that after solutions of continuity, whether simple or with loss of substance, of the median nerve, the sensibility does not completely disappear or very rapidly return over those parts to which the nerve is distributed.

These observations are in contradiction to the rules established by physiology, and the experiments undertaken for the purpose of verifying them have as yet given but negative results. Investigations have been commenced by the authors with the intention of reproducing the phenomena described in the clinical observations, and finding for these some rational explanation. The researches were made on the spinal nerves, and on those especially which pass to the thoracic limb. The animals experimented upon belonged to different species; but all were not equally favourable subjects for this kind of investigation. The following results were presented by dogs.

For the success of experiments of this kind it is very important to dispense with the employment of anæsthesia, in order to avoid profuse hæmorrhage, and moreover to allow a certain interval (one hour and even more) between the time of the operation and the time of examination.

The experiments have been arranged in two great groups. Those of

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* Communicated to the Académie des Sciences.

the first group relate to the state of sensibility of the integument; those of the second to the sensibility at the peripheral extremity of the divided nerves.

The experiments show that sections of certain nervous trunks do not induce complete insensibility of the integuments; that the peripheral ends of the three nervous trunks supplying the palm of the hand remain sensitive, provided that one of the trunks remains intact, and that the sections be performed about the middle of the forearm; and finally, that the peripheral end of a terminal branch of one of these three nerves remains sensitive if the trunk which has supplied this branch is not cut through, whilst the sensibility of this peripheral extremity disappears with the radial and ulnar as soon as the corresponding trunk is divided.

The authors speak of some new clinical facts which are of great importance. The first occurred to a young man, who after a wound at the root of the thumb was attacked with painful cramps in the whole of the limb, and exaggerated flexion of the hand. Very soon trismus came on, and the median nerve was then divided at the upper third of the arm. Two hours after this operation, the persistence of sensibility could be made out in the regions of the hand supplied by the median nerve. The investigations were made by grazing the parts with a resisting body, by pricking and pinching. The sensibility to cold and heat disappeared. The tetanic symptoms afterwards increased in intensity, but finally disappeared at the end of the first week.

The subject of the second case was also a young man who in a fall received a contused wound of the lower part of the forearm and of the front of the hand; the tissues were so much contused that the surgeon was obliged to cut away some flaps of skin, fragments of tendon, and the two ends of the divided median nerve. As a result of this, there was a loss of substance of the median nerve amounting to four or five centimetres. Sensibility persisted, as in the preceding case.

The third case was one of a man advanced in years who, independently of a cardiac affection with concomitant respiratory disturbances, suffered from neuralgia of the external part of the leg. The endermic application of narcotics in very large doses had failed to give any relief, and the patient cried out by day and night. The external saphenous nerve was divided at the lower part of the limb, and six hours afterwards the inferior end was resected. Before the resection was performed, the peripheral end was irritated, and on two different occasions was found sensible. On the same occasion there was even a movement of flexion of the foot upon the leg, with very marked increase of the pain. The neuralgia did not cease.

By applying these clinical facts to the physiological results obtained by MM. Arloing and Tripier, a perfect concordance is found to exist between them. Thence it results, with regard to therapeutics, that neurotomy, whether simple or with resection of nerve, should not be much relied on in nervous affections without appreciable lesions (tetanus, neuralgia, &c.), as the nervous transmission still continues in action.

## Art. 145.—*Acute Rheumatic Affections of the Joints: their Pathology and Treatment.**

By William Adams, F.R.C.S., Surgeon to the Royal Orthopædic and Great Northern Hospitals, &c.

(*Medical Times and Gazette*, February 6, 1869.)

After referring to the great advance made in the modern treatment of joint diseases—a result obtained by our more exact knowledge of structural anatomy and the physiology of nutrition, as well as the study of inflammation in its physiological and pathological bearings—Mr. Adams proceeded to consider whether the classification and description of joint diseases should be made upon an anatomical or pathological basis. He preferred the pathological arrangement, considering that the anatomical basis might lead to a much too narrow view of the pathology of diseases of the joints in reference to the constitutional conditions upon which they depend.

As some authors consider the synovial membrane and the cancellous tissue of the bone to be the only structures liable to primary inflammation, Mr. Adams produced some evidence to show that both the ligaments and articular cartilages were frequently the primary seat of disease, *the ligaments* suffering from inflammation after sprains and injuries, which, when occurring in strumous constitutions, frequently led to complete destruction of the joint, as seen in hip-joint disease, which, Mr. Adams believes, generally commences in the round ligament.

*The articular* cartilages are liable to changes of nutrition, scarcely separable from the effects of inflammation in its more chronic form, such as fibrous degeneration, and also hypertrophy and subsequent ossification, which Mr. Adams first pointed out as occurring in the production of osteophytes in chronic rheumatic arthritis. They are also believed to be the seat of true inflammatory changes, as represented by the textural changes of cell nutrition; and Professor C. O. Weber considers that suppuration may occur in the texture of articular cartilage. Mr. Adams, however, expressed some doubt upon this point, though admitting the other inflammatory changes.

A very large proportion of all the cases of joint disease met with in practice are associated either with a rheumatic or strumous constitutional condition, and the influence which these constitutional conditions exert on the local affection, Mr. Adams proposed to make the special subject of the present lectures, thus regarding joint diseases from a constitutional point of view.

The first, and indeed the great question to be considered is—To what extent is the inflammatory process, when affecting the joints, modified with respect to its results or so-called terminations in adhesion, suppuration, and ulceration by the constitutional conditions of rheumatism and struma? Mr. Adams believes the general law of rheumatic and strumous inflammation to be, that, in the rheumatic form, whether acute, subacute, or chronic, there is no disposition to the destructive processes

* Abstract of Lettsomian Lectures delivered before the Medical Society of London in 1869.

of suppuration and ulceration, whilst a disposition to these destructive processes constitutes the chief pathological characters of the strumous inflammation.

Does suppuration ever occur during the progress of acute rheumatic inflammation in the joints, the eye, the pericardium, or pleura, or in any other structures of the body? Mr. Adams considers that suppuration never does occur as the result of rheumatic inflammation in any organ or tissue of the body, but that rheumatic inflammation always exhibits the same tendency to terminate in the effusion of serum and plastic lymph, and that by the organization of the latter adhesions are formed.

In the eye, the ophthalmic surgeon has no fear that rheumatic iritis will terminate in suppuration or ulceration; its termination in adhesion is constantly seen, and its prevention is the chief object of treatment. In the pericardium and pleura, when attacked by rheumatic inflammation, the physician looks forward to the same termination. Rheumatic inflammation, therefore, exhibits itself essentially as a productive process, and strumous inflammation essentially as a destructive process.

In the general pathology of rheumatism it is of importance to ascertain whether there are any modifying influences which may alter the ordinary progress and termination of rheumatic inflammation. The most important modifying influences are those of struma, syphilis, gonorrhœa, and leucorrhœa. Of these it may be said that none of them produce any essential modification as to the results of the rheumatic inflammation. No tendency to suppuration or ulceration is induced by any of these complications, but still each of them exerts some special influence on the progress of the rheumatic inflammation.

Mr. Adams then proceeded to the description of

### ACUTE RHEUMATIC SYNOVITIS,

its general characters, symptoms, and progress. The doubt expressed by the late Dr. Todd as to the true inflammatory nature of the joint affection was removed by reference to the post-mortem examinations of several patients who had died from cerebral or cardiac complications of rheumatic fever, from the fourth to the twenty-fifth day. In all these examinations the morbid appearances were essentially of a similar character—viz., inflammation of the synovial membrane, with effusion into the joint of serum, with albuminous shreds or flocculi of lymph floating in it. In no instance was the existence of pus or of any ulceration of the articular cartilage described. Mr. Adams regretted that so few post-mortems were on record in which the joints had been examined in patients who had died during an attack of rheumatic fever.

In the treatment he spoke of the value of the hot-air bath, applied whilst the patient is in bed, and alkaline fomentations to the inflamed joints. The action of alkalies, both externally and internally, he believed, was not so much in neutralizing the excess of acid in the system as in their tendency to fluidize the blood by their direct chemical action upon the fibrin, which is known to be much increased in quantity in this affection. The effect of this in the local application was to remove the condition of stasis of the blood corpuscles, always

existing in inflammation. The action of mercury was also discussed in reference to its power of diminishing the quantity of lymph effused, of preventing its organization, and promoting its absorption, especial reference being made to the experience of ophthalmic surgeons in the treatment of rheumatic iritis.

The next affection described by Mr. Adams was that of

ACUTE RHEUMATIC SYNOVITIS, IN AN AGGRAVATED FORM, LOCALIZED IN ONE JOINT DURING THE EARLY STAGE OF RHEUMATIC FEVER—GONORRHŒAL OR GENITAL RHEUMATISM.

These cases at their commencement exhibit the ordinary symptoms of rheumatic fever, but instead of metastasis of the articular inflammation occurring, the inflammation in an aggravated form quickly localizes itself in one joint, usually the knee or the hip-joint, so that the joint affection quickly becomes the predominant feature. The acute symptoms generally continue from three to five months. Suppuration is often feared, but no liability to this process exists. It terminates neither in suppuration nor ulceration, but in the effusion of lymph, and organization of adhesions within and surrounding the joint. A specimen exhibiting these conditions was shown to the Society.

The most frequent cause of this affection is the previous existence of gonorrhœa, but sometimes a history only of leucorrhœa can be traced. Hence the propriety of the term genital rheumatism.

The explanation of these cases depending upon a mild form of purulent infection, was considered by Mr. Adams as very doubtful, as only one joint is usually affected, and there is no tendency to suppuration; whilst in pyæmia several joints are generally involved, and suppuration constantly follows. The pathology is therefore obscure.

The constitutional and local treatment are the same as in the ordinary form of acute rheumatic synovitis, but the intense pain can be best relieved by the subcutaneous injection of morphia. Possibly the American plan of extension by weights, proved to be so successful in removing the most acute pain of hip-joint disease, and also the pain in some cases of inflammation of the knee-joint, might meet with equal success in this affection, and is worthy of trial.

For the removal of the remaining stiffness of the joint the use of the steam-bath, shampooing, and passive motion was recommended to be commenced early, and, if these failed, forcible extension under chloroform was to be used, and repeated every two or three weeks, very little being attempted each time; the restoration of motion thus being very slowly and gradually obtained.

*Subacute and Chronic Rheumatic Affections of the Joints: their Pathology and Treatment.*

This form of rheumatic inflammation, Mr. Adams observed, most frequently occurs in young adults, free from gouty tendency. The knee-joint is generally affected, and the form of the swelling corresponding to the synovial sac is diagnostic; fluctuation is distinct; there is some increase of heat, and a little pain, but no redness of the skin. It has no disposition to suppuration or ulceration, but generally terminates in resolution with slight stiffness of the joint, which is gradually

removed by treatment. A very similar condition is occasionally met with in persons beyond the middle period of life who have suffered from gout or rheumatic gout.

Gonorrhœa also forms a complication of subacute synovitis, and though only one joint is generally affected, Mr. Adams has seen both knee-joints affected, and iritis, resembling the ordinary rheumatic form of this affection, occurring at the same time.

The diagnosis from strumous and syphilitic synovitis was then given, the latter affection being associated with periosteal inflammation of the articular extremities of the bone.

In the treatment of subacute and chronic rheumatic synovitis, Mr. Adams preferred a large blister dressed with strong mercurial ointment, together with iodide of potassium and bicarbonate of potash internally. The stiffness remaining in the joints may be removed by the use of the local steam bath, shampooing, and passive motion.

The next affection described was *chronic rheumatic inflammation of the joints, not commencing in synovitis, chronic articular rheumatism.* In this affection the ligaments of the joints are primarily and essentially affected; and it has a marked tendency to terminate in true bony anchylosis. In this respect it differs from chronic rheumatic arthritis, which Mr. Adams believes never terminates in true bony anchylosis, and also in the absence of any enlargement of the articular extremities of the bones by osteophites, or nodulated growths of bone developed in the articular cartilage.

The clinical history of this form of chronic rheumatic inflammation has not been well described, but a few well-marked cases had fallen under Mr. Adams' observation in patients becoming gradually anchylosed in many articulations, and reduced to a most helpless condition, without presenting any of the ordinary symptoms of what is called rheumatic gout, or chronic rheumatic arthritis. The articulations of the vertebral column are not unfrequently affected.

In the treatment of this affection, Mr. Adams chiefly relies upon a combination of bicarbonate of potash with ammonia, and when the urine is clear commences the exhibition of sulphur externally and internally, a sulphur vapour bath being taken every day, or every other day. He has also found great advantage from the use of dilute phosphoric acid, in doses of twenty or thirty drops, three times a day. Locally, the use of turpentine liniment and flannel bandages was insisted upon.

The next affection described was *Chronic Rheumatic Arthritis; Rheumatoid Arthritis, or Rheumatic Gout.* For our present knowledge of the pathology and clinical history of this affection, we are chiefly indebted to the labours of Dr. R. Adams, of Dublin, Dr. R. W. Smith and Mr. Colles, of Dublin, and of Mr. E. Canton, of London. The importance of this disease is increased by the fact that its effects have frequently been mistaken for the results of accident, supposed to have been overlooked by the surgeon, such as fracture of the neck of the thighbone; shortening of the leg from bruise of the hip; and some cases of dislocation, and other obscure forms of injury. When fully developed, all the structures of the joint are involved, but the most important and characteristic structural changes occur in the articular cartilages and the bones.

In the articular cartilages two processes proceed simultaneously from the commencement of the disease—namely, one of fibrous degeneration, occurring in their central portions, and leading to their complete removal, and the other a process of hypertrophy and ossification, proceeding at the margins, and towards the circumference of the articular cartilages, leading to the enlargement and alteration in form of the bones by the development of nodulated growths, and ring-like layers of new bone at the margins of the articular surfaces. These changes had been first described by Mr. Adams in the third volume of the Pathological Society's *Transactions*, and were opposed to the views entertained by Rokitansky and other observers, who believed the enlargement of the bones to depend upon a process of inflammatory expansion described as osteoporosis, followed by induration. Eburnation of the bone takes place where the cartilage is removed, and the surfaces are exposed to friction.

These changes were described in detail as affecting the ball and socket, and the ginglymoid articulations. The fibrous structures, including the periosteum, capsular liguments, intra-articular ligaments of the hip and knee, fibro-cartilages, capsular and intra-articular tendons, undergo various changes, some structures being destroyed by atrophy and fibrous degeneration, whilst ossification is proceeding in others.

In tracing the clinical history of this affection, Dr. Adams, of Dublin, believes it commences in chronic synovitis, but Mr. Adams considers this requires further confirmation; at least, cases have fallen under his observation showing that such is not invariably the case. This disease appears to be of more frequent occurrence in Ireland than in England, and still more frequently met with in Holland, so that exposure to cold and moisture, together with debility and other depressing influences, appear to act as exciting causes of this disease.

With regard to its termination, two pathological peculiarities are observed, one, a remarkable indisposition to terminate in suppuration, and the other that it has no disposition to terminate in true bony anchylosis, motion being preserved by eburnation, but limited in severe cases by osseous growth from the margins of the articular cartilages, and from the surrounding fibrous structures.

The treatment of this affection was considered to be very unsatisfactory, but Mr. Adams believes the evidence of the inflammatory nature of the affection at its commencement not sufficient to call for antiphlogistic treatment; but when synovitis exists, either at the beginning or at a later stage, blisters may be serviceable, but he prefers the perpetual application of warmth and moisture, and when applicable, the use of the local vapour bath. In the latter stages no local treatment is of use except warmth by flannel bandages.

Internally, Mr. Adams recommends the use of bicarbonate of potash and ammonia, and sometimes blue pill and colchicum, when red sediment is deposited from the urine, or when the latter is turbid, but without phosphatic deposits. When the urine is clear, he advises the use of sulphur externally and internally, and also the free use of dilute phosphoric acid. Several patients under his care had benefited by resorting to the hot sulphur baths of Luchon, in the Pyrenees, where they pay great attention to shampooing and passive movements of the

joints. The joints should be kept at rest only in the early stage, but when the articular cartilages are destroyed free motion must be encouraged as promoting the process of eburnation, and preserving useful motion in the joints.

Residence in a warmer climate during the winter months was also recommended where practicable.

*Strumous Diseases of the Joints; their Pathology and Treatment. Also the Treatment for the Restoration of Motion in cases of Stiff Joint, or Partial Anchylosis.*

Strumous diseases of the joints were first considered in reference to their general pathological characters, which Mr. Adams described as—1. The essentially chronic character of the inflammation—chronic, or, at most, subacute from the beginning, and maintaining this character through the whole duration of the disease, generally extending over several years; and 2. The tendency of the inflammation towards the destructive processes of suppuration and ulceration in the soft tissues, and to caries and necrosis in the bones, thus invading all the structures of the joints.

In this class of joint-diseases, we see inflammation occurring essentially as a destructive process, leading to the complete destruction of the joints; and unless arrested in its early stage by judicious treatment, terminating in loss of all the functions of the joint, and anchylosis as its most favourable result, and in a large proportion of cases leading either to amputation of the limb, or the more modern operation of excision of the joint, as the only chance of saving the limb or life of the patient. As to the order in which the several structures are invaded, and the liability to primary inflammation, the general tendency of surgical opinion is to the belief that strumous disease of the joints most frequently commences in the cancellous structure of the articular extremities of the bones, and this is probably due to the teaching of Sir B. Brodie, who laid much stress upon this form of disease. Mr. Adams's observation, however, has led him to the opinion that strumous disease of the joints commences most frequently in some of the ligaments of the joints, as the result of an injury, and that from these structures it extends to the synovial membrane. Next to the ligaments, he believes that strumous disease most frequently commences in the synovial membrane, as the result of exposure to cold and damp; and thirdly in order of frequency, that strumous disease commences in the cancellous structure of the articular extremities of the bones, as the result of exposure to cold and damp, and that the disease then generally takes the form of necrosis.

Dissections of hip-joint disease in the first stage, recorded by Mr. Aston Key, Mr. Coulson, and Mr. Adams, were adduced as examples of disease limited to the round ligament and adjacent synovial membrane, without general synovitis, ulceration of cartilage, or disease of the bones; and Mr. Adams observed that, in a large number of such cases, a reliable history of some accident is given, as preceding the joint-affection, and in all probability laying the foundation of the disease. With regard to the curability of strumous disease of the joints, there can be no doubt that, so long as the affection is limited to the synovial membrane, in the ordinary form of chronic inflammation, and the liga-

ments have not been destroyed, it admits of being cured, with restoration of motion to the joint; although the treatment may be very tedious, extending from a few months to perhaps two or three years. When the articular cartilages are to any considerable extent destroyed, it is no longer possible to restore motion, and the best result obtainable is fibrous anchylosis, leading ultimately to bony anchylosis.

From the disposition of the bone-disease to advance when this texture is much implicated, the prospects of anchylosis are remote and uncertain. Under favourable circumstances it may sometimes be obtained, but frequently fails, and amputation or excision must be resorted to. Amongst the poor, operative means may be adopted at an earlier period than in the wealthy class, time being a more important object; and Mr. Adams preferred excision at a comparatively early period, and before the local disease had exhausted the powers of the patient.

The treatment of strumous disease of the joint in the early stage, during which it is alone possible to obtain complete restoration of the joint, must be both constitutional and local. All active local treatment is at once negatived when the strumous constitutional condition of the patient is recognised; and these cases, Mr. Adams considered, were no longer to be treated by leeches, blisters, issues, moxas, the actual cautery, &c.; but all these methods of depletion and counter-irritation, still adopted by some surgeons in England, and more frequently by our continental neighbours, should be laid aside, and the object of local treatment limited to securing rest to the joint by means of gutta-percha splints, &c., together with the application of perpetual warmth and moisture, by wet lint covered with oiled silk, aided by the use of the local vapour bath for a quarter of an hour three times a day. In this way local rest or rest to the joint affected is always secured, whilst general exercise is at the same time permitted. In disease of the ankle-joint, or its neighbourhood, the use of a wooden leg contributes best to this result; and in disease of the knee or hip-joint, the use of crutches should be insisted upon as early as possible.

It is only in the later stage, when there is no decided increase of heat in the inflamed joint, that Mr. Adams resorts to the application of blisters, tincture of iodine, Scott's ointment, &c.

The constitutional treatment consists in the administration of cod-liver oil, iron, quinine, and strychnine. Mr. Adams entertains a high opinion of the usefulness of the hypophosphite of lime, in doses of from five to ten grains, with ten or twenty drops of the tinctura ferri, in water, three times a day, directly after meals. He also advises residence at the sea-side, on chalk hills, or in mountain air. With these hygienic advantages, and mild local treatment, the disease may be arrested in a large number of cases.

The next subject discussed was the *Treatment for the restoration of motion of a stiff joint, or partial anchylosis, by forcible flexion and extension under chloroform.* After alluding to the history of this operation, Mr. Adams stated that when appropriate cases are selected, having reference especially to the constitutional condition of the patient, and the cause of the anchylosis; and when the operation is done with proper precautions, and with less violence than is sometimes used, there appears to be no risk whatever of inflammatory mischief following the

operation. The absence of inflammation, and especially of suppurative inflammation, as a result of the operation, is, in a great measure, to be explained by the subcutaneous nature of the injury inflicted; and in this respect it may be classed in the same category with dislocations and simple fractures, which are seldom, if ever, followed by suppurative inflammation.

One of the principal points which had engaged Mr. Adams's attention had been to determine the particular class of cases to which this treatment is applicable, and those in which it is either attended with danger, or in which it would probably fail in its object of restoring motion; and with this view he arranged all cases of partial anchylosis, or stiff joint, in three classes, viz., 1st, strumous; 2nd, rheumatic; and 3rd, traumatic.

With regard to the *first class*, the strumous, the result of Mr. Adams's experience has been to prove that they are the most unfavourable for treatment by forcible extension. In any scrofulous disease of a joint, where there is reason to believe that the articular cartilages, and other structures of the joint, have been much damaged—and in scrofulous diseases the articular cartilages are, as a general rule, destroyed to a greater or less extent—a stiff joint is certainly the best possible result for the patient; and to obtain this should be the object of the surgeon, every care being taken to secure anchylosis, with the limb in the most useful position. Any attempt to recover the lost mobility can only be made at the risk of producing serious inflammation; and if free motion should be obtained under chloroform, and no serious inflammation follow the procedure, the motion will not be permanently retained, owing to the damaged condition of the joint. Stiffening will gradually return, and the case must be considered a failure.

With respect to the *second class of cases*—the rheumatic—the result of Mr. Adams's experience has been as favourable as it has been unfavourable in the strumous class. In a large proportion of cases of stiff joint, or anchylosis, occurring in young adults after rheumatic fever, or as the result of that severe form which occurs during the progress of gonorrhœa, free and useful motion may be restored by forcible rupture of the adhesions and thickened ligamentous tissues.

There is one great peculiarity in the rheumatic form of inflammation, in whatever organ or structure it may occur—viz., a remarkable indisposition to suppuration; and this is, in the highest degree, favourable to the operation of forcible extension of joints, the tendency of rheumatic inflammation being to the adhesive form.

In the *third class of cases*, viz., the traumatic, the results of forcible extension are also generally favourable, though more uncertain, and on the whole not equal to the results obtained in the rheumatic class.

The conclusions arrived at by Mr. Adams are as follows:—1. Forcible flexion and extension, under chloroform, of a stiff or partially anchylosed joint—false or fibrous anchylosis—is a procedure attended with very little risk, in properly selected cases, and when the force employed by the surgeon, and the subsequent movements, are not excessive, more especially at the first operation.—2. The cases should be selected with reference more especially to the constitutional condition of the patient, and the integrity of the articular cartilages.—3. Cases of

partial anchylosis resulting from scrofulous diseases of the articulation, and those preceded by suppurative inflammation within the joint, whether occasioned by phlebitis, febrile affections, or external injury, are the least favourable for treatment.—4. The cases of partial anchylosis produced by acute rheumatic inflammation, especially when occurring in the adult, and those resulting from gonorrhœal or genital rheumatism, are the most favourable for treatment.—5. Traumatic cases, or those resulting from external injury, when occurring in the adult, and unaccompanied by suppurative inflammation, are also favourable for treatment in a large number of instances.

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## Art. 146.—*On the so-called Subcutaneous Condyloma.*

### By Prof. H. Zeissl.

(*Archiv f. Dermatologie u. Syphilis*, 1, 1869; *Schmidt's Jahrbücher*, 1, 1869.)

The name of subcutaneous condylomata has been given to growths from the integument, varying from the size of a mustard seed to that of a pea, with surfaces generally flattened, but in some few instances rounded. In the latter form there is often found, as in variola, a central depression. In this depression may be observed with the naked eye the orifice of a follicle, which is either opened or closed by a comedo. The integument over these growths, which in exceptional cases attain the size of a sugar comfit, is slightly shining, and of a rosy red colour. The colour, however, undergoes several changes with age and at the commencement of the terminal metamorphoses. The larger growths are circumscribed at their bases, though never pedunculated, and have about the consistency of molluscum contagiosum. As a rule, sensation is not impaired and pain does not occur, except in cases of inflammation. By pressing with the thumb nail upon the side of one of these growths a stearine-like plug of sebaceous matter exudes from the follicular opening. After an increase of this lateral compression there follows a roundish formation, which under a low power presents a glandular and cluster-like appearance. This formation has up to the present time been erroneously stated to be an acuminated condyloma which had taken its origin from the walls of the follicular cavity. Zeissl, in accordance with this view, had previously proposed to apply to the subcutaneous condyloma the name of endofollicular condyloma. But since observers have found the acuminated condyloma to be an hypertrophy of a pre-existing papilla with simultaneous overgrowth of its epidermic covering, this name is no longer tenable. The removed cluster-like formation is not, according to Zeissl, a new connective-tissue growth arising in the cavity of a follicle, but is, as may be observed with a low power, a morbidly enlarged sebaceous gland, the duct of which before the application of pressure contained a mass of inspissated sebaceous material. The so-called subcutaneous condyloma therefore presents a retention cyst. The retention of inspissated serum is not, however, an essential point; this, according to Zeissl, *consists rather in the monstrous hypertrophy of the glandular portions of the follicle itself.*

After the degenerated follicle has been squeezed out there is a proportional loss of substance in the tissue of the cutis, two or three drops of blood are discharged, and the small wound heals in two or three days with a slight scar. The larger growths are best removed with curved scissors, the wound being afterwards cauterized. A relapse is not to be feared—a point of distinction between these growths and the acuminated condyloma. The larger growths may in consequence of irritation become inflamed or gangrenous; the smaller ones, on the other hand, when they are not compressed, generally shrivel. These shrivelled follicular tumours afterwards form the so-called comedones. The growths just described differ from the acuminated condylomata in their pathogenesis, as well as in their minute structure. The development of an acuminated condyloma on syphilitic and non-syphilitic soil always depends upon irritation of the affected parts by a physiological or a pathological secretion—sebaceous matter, sweat, mucous or mucopurulent secretion. The condylomata, as is well known, form on those parts of the genitals and surrounding regions over which there has been a long-continued flow of seborrhagic or gonorrhœal secretion. The follicular affection described above affects those parts of the body which are never bathed in secretions of a similar kind. The independence of irritation on the part of cyst formation and hypertrophy may be recognised in the fact that the affection occurs without gonorrhœa, and in regions where no gonorrhœal secretion can reach, as the arms, back, &c.

Zeissl believes that excessive and long-continued perspiration is one of the chief causes of the follicular affection here described.

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## Art. 147.—*On Pyæmia or Suppurative Fever; being the Astley Cooper Prize Essay for* 1868.

By Peter Murray Braidwood, M.D., L.R.C.S. Edinburgh; late President of the Royal Medical Society of Edinburgh.

"Pyæmia," Dr. Braidwood writes, "may be defined to be a fever which, attacking persons of all ages, is generally sequent on wounds, acute inflammation of bone, the puerperal state, surgical operations or other sources of purulent formation, and septic infection. It appears sometimes to prevail in an epidemic form. No one cause as has yet been found to produce this disease. The presence of pus is not necessary for its occurrence.

"The injection of putrid fluids, as also of chyme and other healthy fluids, induces in animals symptoms like those of suppurative fever, and pathological appearances in the viscera similar to those met with in the early stages of this disease. The symptoms most pathognomonic of suppurative fever are, a more or less sudden invasion on the fourth or fifth day after an operation, marked generally by rigors or by depression of spirits and great anxiety, followed by profuse perspirations; the pulse is generally rapid; the tongue is furred, then loaded, and by-and-by, brown and dry; the skin assumes a dusky, sallow, and then a some-

what icteric tinge; there is very great prostration and emaciation, one or more of the joints swell, become red and painful, and may even suppurate; the breath has a heavy, sweetish, or purulent odour; and there is laboured respiration, delirium, or other symptoms indicative of other organs being chiefly involved. This fever has no fixed duration, but it exhibits certain stages, and generally abates or becomes intensified on the 7th, 8th, 15th, 21st, 22nd, or 28th days, dating from the first rigor or other initiatory symptom.

"It is characterized by the formation of secondary abscesses in the internal organs (most frequently in the lungs, liver, kidneys, spleen, and brain), and also in the joints and cellular tissue.

"I have designated pyæmia a fever, because it seems to me that, regarding its origin, symptoms, progress, and pathology, this disease is more nearly allied to the class of febrile affections than to any other group of diseases with which we are acquainted. This view is further confirmed by the only treatment which has as yet been followed by success. A liberally and properly regulated use of stimulants, and of nourishing diet, has alone been found efficacious in averting that serious issue which has hitherto compelled surgeons to view a rigor after operation as a death signal."

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## Art. 148.—*On the Causes of the Danger of Congestion Abscesses, and on their Treatment.*

By A. H. Schoemaker.

(*Ned. Tijdsch.*, 1, Afd. p. 417; and *Schmidt's Jahrbücher*, No. 10, 1868.)

It is well known that the cause of the danger of congestion abscesses has often been sought for in the circumstance that the pus in these affections, forms cavities, deviating passages, and long tracks. After the abscess has been opened, the greater part of the pus flows away, but a portion always remains behind in these passages; this comes into contact with the air passing from without, and putrefaction and putrid infection are consequently set up. For this reason attempts have been made to prevent the dangerous penetration of air and putrefaction, by applying plaster and thick bandages, by opening the abscess subcutaneously and under water, and to remove the pus by the employment of compression bandages, by making large openings, and by the introduction of drainage tubes. But it has already been learnt from experience that no foul suppuration occurs when wounds are kept uncovered and are freely open to the access of air. Roser's treatment of pyothorax proves in a striking manner that putrid infection is not always set up when atmospheric air stands in contact with stagnating pus in a warm place. After the pus has passed outward from the pleural cavity, not only is there a free access of air to the fluid left behind, but Roser blows air into the chest by force, and thus forces out still more of the purulent fluid. A quantity of pus then naturally remains within the chest in contact with air, and yet in Roser's cases no putrid infection followed, but in several instances rapid cure. On the other hand, cases have been observed in which after spontaneous or artificial opening of

congestion abscesses when the pus had flowed away freely and directly, and when no air had penetrated into the cavity, disturbances in the constitution followed similar to those presented in cases of congestion abscesses where the pus had stagnated and where there had been a free access of air.

This constitutional disturbance is explained by Schoemaker in the following manner:—As soon as pus has formed and an abscess has commenced, the adjacent tissues are pressed together. All that is sufficiently elastic and extensible to yield on compression, becomes stretched, that which is not sufficiently possessed of these characters or wants them altogether, is destroyed by compression, converted into pus, and furnishes its contribution of the contents of the purulent cavity. A kind of membranous covering, the membrana pyogenica of old writers, is gradually formed around the pus. This consists partly of compressed tissues which had previously existed as connective-tissue, muscles, vessels, fasciæ, &c.; and partly of newly-formed connective-tissue and vessels. Whilst fresh pus is being constantly secreted, the enclosing membrane is stretched, and the limiting tissue and vessels become extended and flattened. The blood in these vessels meets with considerable resistance, and the changes of nutritive material consequently take place very slowly. Conditions are altered after the opening of the abscesses, whether this be spontaneous or artificial. After the discharge of pus the stretching of the walls of the abscess is diminished, and the extension and flattening of the vessels cease. The resistance experienced by the blood before the opening of the abscess and before the discharge of its contents is now removed; there is a free circulation, and the nutritive changes at once become more active. This clearly explains the fact, that in the past few days after the abscess has been opened much more pus is discharged than the cavity could have held; in this short time more pus is secreted than was formed during the whole time before the opening was made, more than was required during weeks, months, and years to bring about the abscess. That in connexion with this wonderfully increased secretion from the blood, a proportionally increased loss of nutritive material takes place is a fact that can admit of no doubt.

For the explanation of the constitutional disturbance which often occurs rapidly after opening congestion abscesses, refuge has not generally been taken in the hypothesis that putrid infection can originate in consequence of the introduction of air. Certainly it is probable that through the prolonged changes in the nutritive material abnormal substances may have been taken up into the blood, and consequently such persons become affected, still, it is as yet unknown what chemical changes occur in the blood and cause disease. With the abnormally increased loss of nutritive material, the introduction of air may indeed act so far unfavourably, as is conceived, that it may accelerate it; but the introduction of air certainly is not the only cause of the serious symptoms. In the treatment of congestion abscesses, the consideration of the original lesion is a matter of the greatest importance. When this is unknown, or when known cannot be reached or removed, the opening of the abscess must be prevented as long as possible, and endeavours made to forbid all hurtful influences, such as tight

and heavy articles of clothing. According to Schoemaker, art can do little more than this. The local application of iodine, quicksilver, &c., to congestion abscesses is considered as useless, and therefore to be avoided; also the employment of plasters, which have but little influence upon the progress of the primary lesion and promote the opening of the abscess. Schoemaker holds that a subcutaneous opening is not indicated when the congestion abscess is at the point of being discharged, as the pus flows away more slowly from a spontaneous opening than from one made artificially. The introduction of drainage tubes, enlargement of the opening, &c., are to be avoided after the abscess has broken. A congestion abscess ought to be considered as a *noli me tangere*, and a small counter-opening is only to be made when there is reason to fear a lower collection of pus. Should the pus become ichorous, irrigation with warm water, chlorine water, or with hyperoxide of manganese is indicated.

In conclusion, Schoemaker alludes to the necessity of supporting the strength of the patient by the usual hygienic measures and remedial agents.

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## Art. 149.—*On a New Method of Evacuating Fluid Collections.**

By M. Verneuil.

(*L'Union Médicale*, No. 3, 1869.)

M. Verneuil has made known the following new method for the evacuation of certain fluid collections: empyema, abscess of the liver, retention of the menses through imperforate condition of hymen, &c. This consists in a combination of various proceedings previously known and employed for the same purpose.

The instrumental apparatus consists essentially in—1. An ordinary trocar for puncturing the collection of fluid. 2. A caoutchouc sound, similar to a drainage tube, and furnished with a central support; this tube is introduced through the canula of the trocar into the opened cavity; the support and afterwards the canula are withdrawn, and the tube allowed to remain; the fluid continues to flow by drops. 3. At the extremity of this tube is fitted a valve of goldbeater's skin, which serves to prevent the entrance of air before the discharge of fluid has ceased. This membranous valve is removed when one wishes to inject the cavity; it is afterwards reapplied. This apparatus is left in its position so long as may be deemed necessary for the modification of the walls of the normal cavity or the obliteration of the adventitious cavity.

M. Verneuil has employed this combination of means with success in a series of cases. Firstly, in a case of empyema, with perfect cure; secondly, in a case of retention of the menses in consequence of an imperforate hymen; thirdly, in a young girl affected with chronic abscess, resulting from Potts' disease; fourthly, in a patient suffering from an enormous abscess of the liver. In all these cases modifying

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* Read before the Société Impériale de Chirurgie, December 30, 1868.

injections containing chlorine or iodine were practised once or twice in the day, and had a fair share in the definite result, which was constantly favourable. In every instance the entrance of air, to which M. Verneuil, with so many other surgeons, attributes dangerous consequences, was successfully prevented.

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## Art. 150.—*On Tumours.*

### By Dr. C. Heitzmann.

(*Wiener Medicinische Wochenschrift*, 87—89, 1868 ; *Schmidt's Jahrbücher*, No. 2, 1869.)

*The primary development of a tumour* may be favoured by *irritation*, *disposition*, and *infection*. The irritation may be continuous or frequently recurrent, mechanical or chemical. A single severe and traumatic irritation also has ere this given rise to the formation of a tumour. That on local irritation from without a tumour growth follows with certain individuals in certain tissues only, is explained by the supposition of a local specific irritation through material produced in the body itself,—*disposition*. The disposition may be local as well as general; in many instances it is hereditary, and increases with advancing age. With regard to infection, that of one individual through another is to be distinguished from individual self-infection. Whether a true pseudoplasm may generate a transferable contagium is still questionable. Certain tumours, however, cause local infection in surrounding parts, since numerous secondary deposits often arise in the neighbourhood of the parent growth, which may become fused into a common tumour, as in chondroma, sarcoma, carcinoma. Either the nearest lymphatic glands are affected with the same disease through displacement of infectious tissue elements, or similar tumour growths are formed in more remote organs, whither particles of the tumour taken up into the circulation were floated,—embolic metastases. The latter complication occurs especially with carcinoma, less frequently with chondroma and sarcoma. Those organs which have a great tendency for the production of primary tumours are not the seats of metastatic growths ; the outer integument, mucous membranes, the eyes, the nose, and the several glands. The lungs, liver, kidneys, and serous membranes, which very frequently present metastatic growths, are very rarely affected with primary formations. The lymphatic glands, the brain, and the muscles and bones, present both primary and secondary eruptions. Tumours (pseudoplasms) consist of elements and tissues which are identical with, or at least similar, to those of the normal body. They may be divided histologically as follows (Virchow) :—

1. Simple *histoid tumours*, consisting of simple tissues, and corresponding in their construction to some known tissue of the body.

2. *Organoid tumours:* made up of several tissues, often with a determinate typical arrangement of the parts, resembling a certain organ of the body.

3. *Teratoid tumours:* combinations of several organs, which correspond to an imperfect reproduction of one complete system of the body.

4. *Combination tumours:* several forms of tumour associated together.

Tumours may be thus divided, according to Billroth, with regard to their localization:—

1. *Solitary tumours.*

2. *Multiple tumours:* a series of similarly organized growths in one fixed tissue system only.

3. *Infectious tumours:* those which affect the nearest lymphatic glands and more remote organs.

Every tumour may be solitary and multiple; the infectious tumours are generally solitary at first.

Clinically, tumours may be distinguished as *benign* and *malignant*. The *benign growths* are composed of uniform tissues, commence either as solitary or multiple formations, and are not infectious, that is to say, they are purely local diseases. They act injuriously by causing compression and destruction of the surrounding tissues, and impairing their function. *Malignant tumours* are either the expression of some general dyscrasia or soon result in such; they are also infectious.

The peculiarities by which benign can generally be distinguished from malignant tumours are not well marked. One may, however, decide the degree of malignity.

*Benign tumours* are quite free from pain or never continuously painful, except when they exert pressure or traction, or are themselves subjected to hurtful influences. Neuroma is to be excepted. *Malignant tumours* in general are, or become painful, on account of the tension of surrounding tissue.

The *benign tumours* are in most instances sharply defined; the *malignant* frequently in the form of infiltration, and without strict limits; a malignant new formation, however, may be circumscribed along most of its extent. *Malignant growths* generally increase rapidly in size; some forms of cancer, however, grow slowly for years, and a relatively benign form of cystosarcoma will grow in a few years to the size of a child's head.

The general covering of the body remains moveable over *benign* formations, except when pressure causes inflammation and subsequent adhesion of the skin. *Malignant tumours* involve the skin early, except where they are separated from this structure by aponeurosis or serous membranes.

Simultaneous secondary deposition at several places, or in different systems of the organism, does not prove *malignity*. *Benign formations*, as warts, nævi, chondromata, and lipomatous and fibromatous tumours, come on most frequently as multiple deposits in a certain tissue. Voluminous cancers, and also flat epithelial cancer, almost always remain solitary.

The neighbouring lymphatic glands swell with *malignant* new formations. Here the concomitant enlargement of inflammation and suppuration which occurs with *benign* growths has to be distinguished from infiltration. With concomitant swelling the hardness is never considerable, and the sensibility not increased, except through inflammation; the enlargement is reduced by antiphlogistic treatment, and disappears when the inflammation or the original tumour is removed. With infiltration there is considerable induration and tenderness, and but slight mobility. The occurrence of glandular swelling depends principally

upon the earlier or later softening of the original tumour. The richer a sarcoma or cancerous tumour in cellular elements or bloodvessels, and the more infiltrated the neighbourhood of the growth, so much the more readily will the lymphatic glands become infected, and more speedily will metastases occur.

*Malignant* formations soon commence to soften at several places simultaneously, according to the nature of their seat: this takes place always in soft glandular growths and in cancer of the mamma; in the liver it does not occur until a late period. Epithelial cancer breaks up most frequently and rapidly. *Benign* pseudoplasms may be affected with superficial inflammation, suppuration, and ulceration, in consequence of pressure, the weight of the tumour, friction of the clothes, &c.

Through irritation from remedial agents and injury from probing, or from exploratory oncotomy, even after the breaking-up of a *malignant* tumour, the process of fungation becomes more active, and ulceration extends along the superficial surface. After softening of relatively *benign* tumours, the growth becomes more active, particularly with cysto-sarcoma, and generally when warmth and friction have been applied.

*Benign* tumours do not return after complete removal; *malignant* tumours, on the other hand, return very readily. Sarcoma shows a great tendency to local relapse.

*Malignant* infectious tumours generate dyscrasia; they may also multiply in the form of circumscribed metastases by means of embolic detachment of tissue particles.

Heitzmann distinguishes tumours in the following manner:

1. Tumours which make their appearance both as solitary and multiple growths, which grow very slowly, which do not become infectious even after a life-long existence, and which do not return on extirpation. These are the proper *benign* growths, such as fibroma, lipoma, chondroma, osteoma, angioma, neuroma, and epidermal tumours.

2. Tumours which increase rapidly at one time, slowly at another, which often commence as multiple growths, which often relapse locally after extirpation, and which do not infect the lymphatic glands, but destroy the organism through their rapid extension and through their multiplication, resulting from embolic metastasis. These are the so-called suspected tumours, such as sarcoma, adenoma, soft fungating chondroma, and lymphoma.

3. Tumours which grow rapidly, which infect the lymphatic glands and the organism, and which readily return after extirpation; the malignant growths, as the different forms of cancer.

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## Art. 151.—*Is Cancer a Blood-disease?*

(*British Medical Journal*, April 10.)

The question raised by Mr. De Morgan at the last meeting of the Pathological Society, as to the constitutional nature of cancer, is one of the highest importance. The almost universal opinion that cancer is what is called a blood-disease, is founded partly on the very frequent recurrence of the disease after operation; partly on its wide distribution

when once formed; and partly on the evidence, so frequently afforded, of hereditary tendency.

A protest against this opinion was raised by Mr. Moore; and Mr. De Morgan has taken the same view. It was argued at the Society that a great, if not equal tendency to recurrence is found in the case of tumours which are not cancerous, as in the specimen of cystic sarcoma exhibited at the meeting; that diseases not cancerous are distributed when once formed; and that hereditary tendency is as strongly marked in the simplest tumours as in cancer—as, for example, in a case of hereditary fatty tumour mentioned by Mr. De Morgan. It is indeed familiar to all that peculiarities of nutrition in the parent, of whatever kind, are constantly transmitted to the offspring.

The argument advanced by those who deny the constitutional nature, in the ordinary acceptation of the term, of primary cancer, is that prior to, and for a long time after the appearance of a cancerous tumour, the constitution is distinguished, in most cases, by its healthy characters, and by the absence of any appearances which would indicate disease.

Mr. T. Smith asked, if the evidence of constitutional taint was absent in cancer, where could it be found? What was a blood-disease, if cancer were not? Mr. De Morgan referred to the constitutional characters seen in struma before any deposit of strumous matter took place; and Mr. Moore alluded to small-pox as an instance of what one would expect if the blood were primarily diseased—viz., the general and simultaneous appearance of the disease over the body—whereas, in fact, small-pox was generated in blood from a matter first introduced into it, which interjected or inhaled substance was equivalent to the primary tumour out of which general cancer spread.

Then, again, they argue that, if in these non-cancerous tumours we get recurrence and distribution, as in the case presented, it affords a strong ground for belief that the same cause is in operation in both cases; and that the *onus probandi* of the contrary rests with those who maintain that the recurrence and distribution in cancer are evidences of previous general tendency to disease. Mr. De Morgan and Mr. Moore look on this recurrence in both cases as an evidence that some of the elements of the original disease are carried in the liquids of the body, in bloodvessels, or lymphatics, or spaces in the connective tissue, to a greater or less distance; the extent to which this tendency exists being a question of more or less: that as we find some forms of cancer far more disposed to distribution than others, so cancerous tumours generally may be more disposed to it than other tumours.

The great question which is thus raised is as to the propriety of early operation. If, in the first place, the disease is purely local, but with a structure which allows of the free dissemination of its elements, it is obvious that the earlier and more completely it is removed, the greater the prospect of future immunity. Mr. T. Smith's observation, that it ought to be shown that early and thorough operations do preserve the patient from recurrence, is important; but it is obvious that no logical proof can be given, since surgeons rarely or never see the disease in its early stages.

## Art. 152.—*On a New and Successful Mode of Treating certain forms of Cancer.*

By Alexander Marsden, M.D.,F.R.C.S. Edin., Surgeon to the Cancer Hospital.

The plan of treatment recommended by Dr. Marsden is not intended, the author states, to supersede the use of the knife, but to be used for those cases in which that instrument would be useless, or in which a good caustic can do the work better; as such he offers it to the profession at large.

The treatment is by arsenical mucilage, which, it appears, is applicable to all forms of cancer except the cystic or colloid, provided they have not exceeded certain limits—viz., four square inches, and then not more than a fourth must be attacked at once. When a cancer has exceeded this limit, Dr. Marsden knows of no means that ought to be used to extirpate it but the knife. The paste may be applied to cancers situated on any part of the body, except inside the mouth or nose—parts, in fact, where the use of the curative agent would be dangerous. Dr. Marsden does not recommend its use when the disease is deeply seated, but for many cancers on or near the surface. This mucilage, he adds, is the least painful and most certain remedy he knows. The paste is made according to the following formula:—

Arsenious acid, ʒij.
Mucilage of gum acacia, ʒj.
To be well mixed together, and made into a thick paste.

The patient's health having been attended to, the whole of the cancerous surface is to be spread over with this paste, provided it is not more than a square inch, and it must be sufficiently thick not to run; a piece of dry lint is then pressed on to it, overlapping the paste half an inch all round; this must be left for a short period, say ten minutes, by which time any superabundant paste will have been taken up by the extra lint, which is then to be carefully cut away with a sharp pair of scissors; in an hour, or at most two, the lint covering the paste will have become dry and hard, and it will adhere closely and firmly to the cancer. In the course of twenty-four hours the surrounding parts will commence to swell, become red, and to a certain extent inflamed, and the patient will experience a drawing pain. In general this is by no means severe, and does not last more than one or two days. At the expiration of from forty-eight hours to three days, according to circumstances, bread and water poultices are to be constantly applied and changed every two or three hours; the pain, redness, and swelling will by this time have subsided, and a distinct line of demarcation be seen extending entirely around the cancerous mass; the skin ulcerates, and a fissure is formed, separating the slough from the healthy tissues; the fissure continues to deepen until the entire cancer comes away, leaving a healthy cup-like depression, varying in size and depth according to the mass removed. Healthy granulation will now commence, and it will be well to continue the poultices for some time; indeed, it often happens that no other application need be used. In some instances, the author

writes, only one application will be necessary, but it will in general be found advisable to apply it every second or third morning till the desired effect is produced. When it is intended to re-apply the paste the former piece of lint must be carefully soaked for some time with warm (not hot) water, and after it has come away, the mucilage be used as before, recollecting that until the last application that is intended has been made, poultices as a *rule* are not to be used, unless under special circumstances, and that after a decided line of demarcation has been formed no more paste is to be applied.

Some weakly patients, Dr. Marsden writes, will be benefited by a tonic both before and during the application. The following is what he frequently gives:—

Hydrochloric acid, ʒj.
Mixture of opium, ʒj.
Compound tincture of bark, ʒiv. Mix.

A teaspoonful to be taken in a wineglass of water twice or thrice a day.

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## Art. 153.—*On Syphilis.*

By E. H. Gregory, M.D., Adjunct Professor of Surgery in the St. Louis Medical College.

(*The St. Louis Medical and Surgical Journal*, November 10, 1868.)

In speaking of the treatment of syphilis Dr. Gregory says that every case may be treated without mercury; many cases do not admit of it at all; but the moderate and judicious use of mercury in many cases removes the existing accident, and renders the patient less liable to relapse.

Diday abandoned a series of cases of syphilis to nature, and proved beyond dispute the fact that the disease is susceptible of spontaneous cure. "Do not forget this fact," Dr. Gregory adds; "ever remember that, however bad your case, there is a natural tendency to recovery. Regulate carefully and strictly the hygiene of your patient; sustain the powers and correct deviations from health upon general principles, always inspiring hope. Never use mercury in the primary sore, if it is disposed to heal during the first week; never when a chancre is inflamed or phagedenic; never at any period of the disease when your patient is feverish. Mercury does not lessen the chance of secondary symptoms; as a general rule, it is well to wait for secondary symptoms before appealing to the mineral, and then antimonials may cure. The most reliable agent, after all, in the earlier stages of syphilis, is mercury, and, as the disease progresses, iodine begins to exercise a therapeutic influence, and in the last stages, a combination of the two becomes most important. At first mercury should be given cautiously, and in small and infrequent doses. Sound the susceptibilities of your patient. Our formulæ are in early periods:—

"℞ Protiodidi hydrarg., ℈j.
Ext. conii, ʒj.
Misce. Fiant pil. No. xxx.
"S.—One pill a day for a time, gradually increasing to three pills daily.

"℞ Hydrarg. cum creta, ℈ij.
Quiniæ sulph., ℈j.
Misce. Fiant pil. No. xx.
"S.—One pill three times daily.

"The bichloride of mercury in doses of one-sixteenth to one-twelfth of a grain, three times daily, answers well in many cases; where there is a tendency to diarrhœa, combine opium with the mercury.

"Donovan's solution is a valuable preparation, given in from five to eight drops three times daily after meals. Mercury may sometimes be beneficially administered by the rectum, consisting of half a drachm of mercurial ointment, made stiff with wax or tallow, and repeated twice a day until the gums are slightly affected. When the system is much dilapidated, mercurialization is best attained by fumigation. All that is necessary is a blanket carefully secured about the neck; the patient, completely nude, is seated in a willow chair, beneath which is placed a shallow pan half filled with water, into which is put a brick heated to redness, and upon which is placed a scruple of calomel. In five or ten minutes profuse perspiration is induced; the calomel is evaporated in fifteen or twenty minutes, after which the patient is enveloped in the blanket and placed in bed. If the patient's strength is fair, every night is not too often for the repetition of the baths, or from one to three times a week may be sufficient. During the time, and at all times, the patient should wear flannel next the skin. The baths may be continued from four to five weeks.

"The topical application of mercury is proper when the disease is of long standing; when the surface is covered with sores; when there is deep involvement of the bones; or when the system is exhausted by suffering or long courses of the mineral by the mouth.

"Mercury may also be given by inunction, from half a drachm to a drachm, rubbed upon the inner sides of the arms and thighs once a day, until the constitutional effects of the medicine become apparent by the state of the gums, breath, and saliva.

"Simple and medicated baths are most useful, particularly beneficial in rupial ulcers, rheumatic pains of bones and joints. A common salt hot bath, or one containing carbonate of soda or potassa, are most excellent detergents in the foul ulcers so common in the advanced stages of syphilis.

"Most of you are familiar with this formula:—

"℞ Potass. iodidi, ʒvij.
Bichloridi hydrarg., gr. iij—v.
Ext. conii, ʒj.
Syrup. Stillingiæ, ʒij.
Syrup. sarsap. comp., ʒij.
Tinct. cinchonæ, ʒiij.
"Misce. S.—Teaspoonful three times daily.

"This combination we use in the latter stages of the disease. It is

well to give the dose with a tablespoonful of water, and one or two hours after meals.

"There are certain rules of treatment applicable to all local affections. Thus the surgeon does not hesitate to remove a dead bone, open abscesses, divide fasciæ, trim off ragged, undermined edges of ulcer, placing them in a suitable condition for speedy separation. Cleanliness is important. Fetor is allayed by carbolic acid, or the free use of chlorine preparations. When much inflammation is present, emollients are important. Touching weak sores or phagedenic sores with nitrate of silver or nitric acid at first once a day, and subsequently every third or fourth day, according to the condition and progress of the sore. The potassio-tartrate of iron is not to be forgotten as a local application to ugly ulcers; one drachm to the ounce of water. Dust ulcers with calomel or subnitrate of bismuth.

"For syphilitic affections of the nose we rely mainly on the chloride of zinc, one to three grains to the ounce of water, as a local application. The involved parts should be frequently cleansed. The nasal douche is valuable. Powder used as snuff, as the subnitrate of bismuth and tannic acid, may be used once or twice daily. I have touched with the liquid nitrate of mercury a deep ulcer in the naso-pharyngeal space. After three days, if there is no improvement, it will be proper to reapply the escharotic; meanwhile, we will use the diluted tincture of iodine. A solution of the permanganate of potassa, two to five grains to the ounce, is a useful remedy for troublesome syphilitic affections of the nasal passages.

"The remedy for syphilitic iritis is mercury. Be most earnest and assiduous, ever mindful of the importance of the organ involved. You have observed the effect of mercury and iodide of potassium in these cases; the turpentine of Carmichael will not do.

"For the affections of the bones and periosteum use the iodide of potassium; severe suffering is often relieved as by magic, the iodide of potassium proving a most potent anodyne. Leeches, blisters, and the tincture of iodine are important applications to nodes. Sometimes the pain and tension of a node may be promptly relieved by subcutaneous incision, effected by a delicate bistoury; necrosed bones must be removed, and carious bone scraped and its surface dusted with red precipitate; diffused hypertrophy of bone usually disappears under constitutional treatment. Exostoses, when free from mechanical inconvenience, are not to be interfered with.

"Syphilitic sarcocele is a common disorder, known by its history, by its implicating especially the body of the testicle, and by its extreme indolence; it is to be cured by constitutional measures. We are at this time treating a case most satisfactorily with bichloride of mercury and iodide of potassium. The prescription we have already given.

"Condylomatous growths are most constant symptoms. The same general treatment is applicable here as for sarcocele. The chromic acid applied once in a day is the best agent to destroy the tumours; in the interval of the applications the surfaces should be covered with calomel, subnitrate of bismuth, or the carbonate of zinc. The parts should be frequently cleansed with chlorinated soda.

"The treatment of congenital syphilis is like that for the acquired.

The most approved hygienic measures, flannel next the skin, high, dry, airy situations, and the best artificial food possible. When there is much emaciation, cod-liver oil is a most valuable adjunct to mercury, which latter displays its effects most advantageously in hereditary syphilis. The bichloride is a valuable mercurial in these cases, in doses varying from the fortieth to the fiftieth of a grain three times a day, dissolved in a few drops of Huxham's tincture of bark. Where there is much gastro-intestinal irritation the mercurial inunction would be best, say a scruple rubbed upon the belly—removing temporarily the flannel bandage—once a day till all evidence of the disease has disappeared."

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## Art. 154.—*On Inoculation of Syphilis.*

### By Dr. Vincenzo Tanturri.

(*Il Morgagni,* ix. 3 ; *Schmidt's Jahrbücher*, No. 2, 1869.)

This contribution gives the results of numerous pathological experiments with syphilitic inoculation.

*Auto-inoculation with matter taken from syphilitic ecthyma pustules.*—The number of investigations on this point amounted to several hundred; of these eight are fully reported. The inoculation was performed by making from six to ten lancet punctures, the seat of the inoculation being afterwards covered by a watch-glass. In the course of from twenty-four to forty-eight hours, red spots were observed which varied in shape according to the form of the incisions, and in the midst of these, small vesicles which could be scarcely seen with the naked eye. By the third day the redness had increased, the surrounding tissue was infiltrated, and a crust had formed in the centre over an ulcerous base; about the fourth or fifth day the crust had become thicker and the ulcer deeper; between the tenth and twelfth days there was recovery, resulting in the formation of a level cicatrix with a reddish brown colour. The contents of the pustule could be repeatedly re-inoculated in the same manner. Inoculability was most pronounced shortly after the first appearance of the pustular syphilide; with advanced development or a retrogressive stage of the eruption it succeeded less frequently. Inoculation produced, with repeated generation, positive results on most regions of the outer integument; when practised extensively on mucous membranes, on the other hand, it always failed. In two individuals matter from an ecthymatous pustule was inoculated into the right thigh, and pus from a soft chancre into the corresponding limb of the left side. After the third day the pustule formed from the ecthymatous secretion closely resembled that formed by the inoculation of pus from the soft sore; the two pustules differed only in the one respect, that matter from the sore on the left side when re-inoculated on mucous membrane gave rise to an ulcer, whilst matter from the ecthymatous sore on the right thigh could not be inoculated with success on the same tissue.

*Transfer of the discharge from secondary ulcers of mucous membranes to the skin and mucous membranes of syphilitic subjects.*—All attempted inoculations with the discharge from ulcers of the mouth and fauces

failed. In two cases the pus from secondary syphilitic ulcers of the vagina was inoculated, with positive results on mucous membrane, and with negative results on the external integument. The secondary ulcers of mucous membranes ought not to be confounded with suppurating gummy growths; numerous inoculations with the contents of these were attended with no results.

*Inoculation on syphilitic subjects of matter secreted by broad condylomata.*—In thirty-four cases inoculation of the thin serous secretion was performed on the integument without result, and the same thing occurred in three cases in which the secreted fluid from a secondary syphilitic excrescence on the fauces was applied both to skin and mucous membrane. Out of thirty-two auto-inoculations on the skin and mucous membrane with the discharge of ulcerating broad condylomata, five only—and these were on the skin—were attended with success.

*Auto-inoculation with the purulent secretion of irritated infecting chancres.*—This failed in most instances; in a very few cases only were ulcers formed on the external integument, which could be transplanted through several generations on skin but not on mucous membrane.

From these results, Tanturri derives the conclusion that whilst the soft chancre can be inoculated both on skin and mucous membrane, the pustular syphilides, the secondary ulcers of mucous membranes, and the broad condylomata can be inoculated only on a similar tissue to that in which they were originally seated. All growths produced by the inoculation of the products of the dyscrasia are therefore to be considered as ulceroids, which are sharply divided from the soft chancre by the fact that their capacity for inoculation is restricted to a tissue similar to that on which they are seated.

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## Art. 155.—*On the Local Treatment of Syphilis.*

### By Prof. Sigmund.

(*Wiener Med. Presse*, 1867; *Schmidt's Jahrbücher*, No. 11, 1868.)

Since it has been learnt from experience that in the majority of cases eradication of the primary local symptoms of syphilitic disease cannot prevent the general affection, the advantages of a local treatment have been underrated. But the authenticated cases of a successful abortive treatment on the one hand, and the necessity on the other of preventing auto-inoculation, enforce a careful treatment of the local syphilitic symptoms.

The first symptoms of syphilis consist in a papule and an erosion with concomitant infiltration. Cicatrization follows after the application of mild dressings and attention to cleanliness: the lotion being of weak solutions of chlorate of potash, chloride of lime, biborate of soda, or sulphate of zinc. Higher degrees of inflammation necessitate the application of cold to the excoriated spots, and fomentations with sedative agents, among which preparations of lead take the first place (basic acetate of lead, 30 grammes to 180 grammes of water; acetate of lead and sulphate of zinc, 3·75 grammes to 90 grammes of water, containing opium). This agent is especially indicated in cases of painful indura-

tions and papulæ on the prepuce and glans penis, on the scrotum, and on the labiâ and the mucous membrane of the vulva of pregnant and lying-in women. With tardy removal of the diseased and healthy secretion, it is necessary in cases of phymosis to perform circumcision, and with much enlargement of the labia majora the removal of these appendages should be undertaken. Ulcers, with pus adhering here and there to the exposed tissues, should be brushed over with caustic agents; sulphate of copper, finely powdered or dissolved in water, 72 centigrammes to 3·75 grammes, is useful, and also a solution of nitrate of silver—1·25 grammes to 3·75 grammes of water. Other efficacious agents, as red precipitate, chloride of zinc, and corrosive sublimate, cannot be so well applied in private practice, as the patient is generally left to his own guidance. After one or more cauterizations the ulcer, when presenting pure pus and a granulating surface, is to be dressed with a weak solution of the same agents, the strength being from 12 to 24 centigrammes to 3·75 grammes of distilled water, or with an ointment. Under this treatment the formation of epithelium and cicatrization is brought about. The removal of the induration takes place later. Erosions, with slight secretion, seated upon indurations, should be covered by grey plaster. In cases of lesions of the vagina, the female urethra, the tongue, the tonsils, and the lips, where dressings are not applicable, cauterization should be frequently performed and great attention paid to cleanliness. For ulcers and erosions in the male urethra, caustic agents should be applied, and a piece of bougie, about one inch in length, be introduced and retained by means of adhesive plaster. Papules, indurations, and ulcers seated on the inner surface and on the margin of the prepuce, require in most instances the removal of the skin. By this proceeding the surgeon may prevent extensive and widespread destruction of the glans and urethra. Isolated dry papules covered with epithelium and situated on the genitals, the mouth, and other parts of the body, should be painted with a solution of corrosive sublimate in ether or spirits of wine (1 part to 8). Suppurating papules, however, can only be dressed with a weak solution (6 centigrammes to 30 grammes). Papules breaking down into pus are to be treated in the same way as ulcers.

Pregnant women affected with considerable induration about the genitals should at once be treated by inunction. Before delivery those indurations which are likely to be much irritated during parturition should for the most part be removed. For lying-in women coming under treatment with similar affections, the surgeon should prescribe the inunction cure about the fourteenth day after the delivery.

With regard to caustic agents for ulcers, the sulphate of copper in a saturated solution is of all useful agents the best, as it acts thoroughly on the tissues saturated with pus, and does not destroy the surrounding integument. For the destruction of deeply-seated tubercles caustic potash is the best agent. The action of this can be immediately arrested by adding acetic acid, whilst the parts adjacent to the wound are to be covered with fat.

Papules in the mouth and on the fauces are cauterized by Sigmund with a solution of corrosive sublimate, but in this proceeding caution is recommended. Simple erosions on hardened parts in the mouth and

other parts should be covered by good adhesive plaster of soap and mercury. A mixture of corrosive sublimate and collodion is not to be recommended, as this prevents the discharge of the secretion. All the other remedies recommended by old and recent writers are rejected by Sigmund, as these form eschars, beneath which pus collects, and, moreover, because they stain the skin and soil the linen. The actual cautery is a most convenient destructive agent for papules and ulcers the anatomical seat of which permits such treatment. The eschar thus formed adheres closely, whilst cicatrization goes on at the loosened edges. This proceeding, however, is applied only in a few cases, as the sight of the instruments, when these are once known to the patient, excites a panic of terror.

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## SECT. II.—SPECIAL QUESTIONS IN SURGERY.

### (A) CONCERNING THE HEAD AND NECK.

### ART. 156.—*Two Cases of Trephining.*

By Dr. COPMANN.

(*Berliner klinische Wochenschrift*, No. 8, 1869.)

Marie E., aged eleven years, came under the care of Dr. Copmann on November 16th, 1867, to be treated for supposed chronic encephalitis. The child, well developed for its age, complained of lancinating pains in the frontal region and of vomiting. The latter symptom had lasted for two days, and immediately followed the introduction of food. The child, when questioned, declared that she had received a few days previously a violent blow upon the head with a sharp hook. In fact, traces of an injury were found at the posterior part of the right parietal bone. At this region was observed a wound about four lines in length, the margins of which were swollen, hot, and painful. This wound was opened with a probe, and exit given to about a teaspoonful of thick pus; the pain of the head was much relieved after this little operation. As the child suffered much, the exploration of the deep-seated parts of the wound was put off until another day. The tongue was dry, there was great thirst, loss of appetite, constipation; the pulse was slow, the pupils slightly dilated; intelligence unimpaired.

*Treatment.*—Cataplasms were applied over the wound, and enemata administered.

Nov. 17th.—Has had a calm night; no vomiting. Pulse more rapid; no cephalalgia; pupils still dilated. Slight suppuration of the wound, which remains constantly painful.

Nov. 18th.—*Statu quo.*

Nov. 19th.—Same state as yesterday. The wound not very painful, and can now be explored with a probe. Dr. Copmann made out the existence of fracture of the cranium, with depression of a small piece of bone about three lines in extent. The borders of the fracture are sharp and dentated.

Nov. 20th.—Vomiting appeared in the course of the night; the pulse

slower. The wound was enlarged by means of an incision in order to permit the introduction of the finger; about half of a teaspoonful of viscid pus flowed away. Trephining was thought of, but the good state of the strength of the patient, and her early age, induced Dr. Copmann to put off the operation.

Nov. 21st.—Violent cephalalgia in the anterior half of the head. General condition the same. Four leeches applied to the temples brought rapid relief.

Nov. 24th.—The pains have returned with renewed intensity in the anterior part of the head. A fresh application of leeches brought but slight relief. Slight convulsive movements were observed in the arms and legs. The wound is very painful, suppuration scanty. Pulse slow; transient delirium.

Nov. 25th.—Patient has had a very restless night, and has been affected with delirium and vomiting. Calomel has been administered and leeches applied, but without success. It was decided to perform trephining on the evening of the 26th. The wound was then enlarged; the trephine applied, and an osseous splinter removed which had been implanted vertically into the dura mater; the dura mater was of a deep blue colour, and presented a small orifice of the size of a pin's head, from which there was a discharge of pus. A loose bandage was applied over the wound, and ice placed on the head; calomel was administered internally.

Fresh leeches were applied on the following morning. The patient, however, did not regain consciousness; the clonic convulsions became general, and death took place on the morning of the 27th.

Nov. 30th.—Autopsy. The cranial vault was perfectly intact, with the exception of the orifice produced by the trephine; all fragments had been removed at the time of the operation. The dura mater presented a wound between three and four lines in length, and about one and a half line in breadth; below the dura mater this wound extended for about three lines into the cerebral mass, and at this spot there was a small abscess of the size of a filbert. On the dura mater were found, in the centre of pus, five small osseous scales. There was marked vascularity of the brain and its membranes; below the dura mater was a thick layer of pus, which extended over the whole of the anterior half of the hemisphere.

Case 2.—On May 22nd, 1868, at six in the evening, P. H. fell from a lofty scaffold, and was immediately carried to the hospital.

The patient retained his reason, but answered slowly to questions which were addressed to him; the pulse was full and slow. Over the right parietal bone was a wound about two inches in length, and directed from the right to the left side; from this there flowed a great quantity of blood. There was also a second wound less deep, parallel to the first wound, and one inch and a half in length. On examining the larger wound by means of a probe, there was found a cleft several lines in breadth, and more than an inch in length, which had rough osseous borders. The fragment corresponding to this cleft was depressed to about the depth of a quarter of an inch, and was immovable. About half an hour after the admission of the patient trephining was performed, the pulse at the time being slow, and the intelligence

slightly obtuse. Chloroform was not administered, and indeed this agent if not hurtful would have been unnecessary, for during the whole operation, which lasted for nearly one hour, the patient manifested no signs of pain. In order to practise trephining the two parallel wounds were united by a transverse incision, and the rectangular flap thus formed was turned over. The hæmorrhage was unimportant: the osseous cleft was completely exposed; it measured four lines in breadth and one and a half inch in length. As it was impossible to extract the depressed osseous fragment the trephine was applied to the centre of the solution of continuity. The circle of osseous tissue being once removed, it was an easy matter to extract the impacted fragment. It was twenty-one lines in length and twelve lines in breadth. Three or four small osseous fragments were at the same time removed by forceps. The wound was then washed with great care: the dura mater was intact. After the hæmorrhage had been arrested the wound was covered by moist charpie. Ice was then applied to the head. The pulse was constantly slow, small, and compressible. The patient answered questions that were put to him, and respired normally.

The general condition of the patient remained excellent on the following day: there was no reaction; the man complained of a headache and of want of appetite.

The third day after the operation, the wound was suppurating and had commenced to granulate. The state of the patient was excellent up to June 10th, when in the middle of the day there was a sudden but slight feverish attack. In the evening the fever had disappeared.

June 11th.—Has had a good night. Wound looking well. No cephalalgia, pulse low. About one hour after dinner the patient was attacked with violent rigors, which lasted for nearly one hour, and were then followed by a state of heat. Sulphate of quinine ordered.

June 12th.—No chills this morning; but a state of heat at 3 o'clock, with acceleration of the pulse.

June 16th.—Has had no more feverish attacks. Wound looking well. Sulphate of quinine to be discontinued.

June 26th.—The patient remains up from bed during the day and takes walks. The wound is cicatrizing: two large scales of bones have been removed.

July 14th.—To-day the patient has had a severe rigor, lasting for half an hour, and followed by fever. The wound is no longer depressed, as previously, but is swollen: the granulations are pale, and the suppuration diminished. No free scales of bone can be found by means of the probe.

July 15th.—More febrile attacks: the wound looking better.

July 17th.—General condition excellent. The wound is cicatrizing.

From time to time Dr. Copmann was obliged to extract small scales of bone. On August 18th cicatrization was almost complete. The patient left the hospital on September 14th. The scar was covered by a plate of copper enclosed in a double sheet of gutta-percha.

The patient was again seen on November 10th. He was then considered as cured, and had taken again to his former occupation.

Dr. Copmann insists upon the advantages of immediate trephining.

He is persuaded that he would have saved his first patient if he had decided upon operating at an early period.

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## Art. 157.—*On the Origin by Contagion of Catarrhal Conjunctivitis.*

By Professor Gosselin.

(*Archives Générales de Médecine*, No. 4, 1869.)

Professor Gosselin gives full reports of several cases of conjunctivitis which tend to prove that the conjunctiva, like other mucous membranes which are exposed to the air,—as, for example, those of the mouth, larynx, and pharynx—is subject to contagious inflammations, and particularly that simple catarrhal and muco-purulent conjunctivitis may be engendered:—

1. By other conjunctivites equally catarrhal and non-purulent;
2. By actively purulent conjunctivitis;
3. By granular conjunctivitis or blepharitis consequent or not upon suppurative inflammations.

The following conclusions are given with regard to prophylactive measures:—

1. To separate, if possible, the affected subjects from those who are not affected.
2. In cases where isolation is not possible, to recommend the use of handkerchiefs and towels exclusively given up to the patients.
3. To avoid all contact between the faces of those affected and of those remaining unattacked.
4. To watch carefully the eyes of individuals who live in the same place, and to treat the conjunctivitis from its commencement, in order not to allow it to pass into a chronic state, which might be ultimately complicated by keratitis, and, consequently, irremediable lesions of the cornea.
5. To insist particularly upon these recommendations in places where large families reside in small chambers, in schools, asylums, children's hospitals, where the accumulation of many individuals in the same atmosphere predisposes to contagion.

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## Art. 158.—*On the Treatment of Chronic Granulations of the Conjunctiva.*

By J. Soelberg Wells, Professor of Ophthalmology in King's College, London.

(*A Treatise on the Diseases of the Eye*, 1869.)

"In the treatment of this disease, our first care must be to place the patients under the most favourable sanitary conditions. They should take a good deal of out-door exercise, their eyes being protected against wind, dust, and bright light by blue glasses. They should be warned not to expose themselves to any irritating cause—as, for instance,

tobacco smoke. For this reason no smoking should be allowed, except in the open air, and then only to a limited extent. The general health must also be attended to. Not only may the patient be naturally weak and feeble, but the severity and protracted course of the disease are but too likely to affect the health, and at the same time to exercise a most depressing influence upon the mind. The diet should be nutritious and easily digestible, and malt liquor and wine will generally be very beneficial. If the patient is scrofulous, or weak and feeble, cod-liver oil, steel, and quinine should be freely given, and every care taken to invigorate the constitution as much as possible by open air exercise, sea-bathing, or even a voyage.

"In our local treatment we must be chiefly influenced by the fact, that the maintenance of a certain degree of inflammation of the conjunctiva is necessary and desirable in order to produce and hasten the absorption of the granulations. Our chief efforts must, therefore, be directed to maintain the requisite degree of inflammation, and so to balance it that it shall not, on the one hand, be too considerable, nor, on the other, too slight for promoting the absorption.

"The greatest stress must be laid upon the fact, as Arlt and Stromeyer remind us, that the purpose of the cauterization is *not* that of chemically destroying the granulations, for this would lead to great and lasting injury of the conjunctiva from the destruction of its secreting organs, and the formation of dense cicatrices; but its object is to maintain a certain degree of hyperæmia and inflammation of the conjunctiva, in order to hasten absorption of the granulations. The nature and strength of the caustic must vary with the effect we desire to produce. If there is much swelling of the conjunctiva and papillæ, together with a thick, copious muco-purulent discharge, the crayon of nitrate of silver and potash should be applied, its effects being at once neutralized by the solution of salt and water. The cauterization may be repeated every forty-eight hours. If the patient cannot be seen sufficiently frequently for this, he should use a collyrium of nitrate of silver (gr. ij—iv, ad ℥j), or of sulphate of copper of the same strength; two or three times daily. In these cases we may also first try the effect of a collyrium of acetate of lead, or the chlorine water, in order to see if the conjunctiva will bear the nitrate of silver. The use of very strong solutions of nitrate of silver (gr. x—xx, ad ℥j) is not judicious, as they are but too likely to destroy the granulations, and with them, the normal structure of the conjunctiva, instead of simply favouring their absorption. I think the crayon of nitrate of silver or copper is always to be preferred to the use of collyria, as we can regulate and limit the effect of the cauterization according to our wish, confining it, if necessary, chiefly or entirely to certain portions of the conjunctiva. If there is considerable swelling of the conjunctiva, especially at the retro-tarsal fold, superficial scarification may be employed with much advantage. After the cauterization, cold compresses should always be applied to the eyelids, in order to diminish the inflammatory reaction, or the cold douche or pulverizer may be employed. If the conjunctivitis is so slight as not to produce the absorption of the granulations, but rather to encourage their development, it will be necessary to increase the hyperæmia and inflammatory swelling of the conjunctiva. The

repeated application of sulphate of copper in substance is very effectual for this purpose. The same effect may also be produced by the application of warm compresses to the eyelids. Von Graefe has found this treatment very successful, especially in those cases in which the granulations tend to extend chiefly into the conjunctiva, and in which there is not a sufficient degree of hyperæmia and swelling of this membrane. These warm compresses should, however, only be applied for a limited period, otherwise they may produce too considerable an inflammation and too great an irritability of the eye.

"In treating chronic granulations, it will be necessary occasionally to change the caustic, as it loses its effect after a time from the conjunctiva becoming accustomed to it. Thus alum, acetate of lead, or tannin may be substituted with advantage for the nitrate of silver and sulphate of copper. In some cases the acetate of lead should be rubbed in (finely powdered) between the granulations. This treatment, which was first adopted by Bruss, has been practised with great success, especially in Belgium. I have employed it with much benefit in those cases in which, together with but a slight secretion and lachrymation, the granulations are prominent and fleshy, being arranged in rows, with deep furrows or chinks between them. Finely powdered acetate of lead should be freely rubbed into these furrows until they are quite filled up. The effect of this is, so to speak, to choke the granulations, their vitality is impaired, and they gradually dwindle down in size and disappear. After the application the conjunctiva looks marbled or tattooed of a red and white colour, the chinks are filled up, and it soon becomes smooth and even. An important fact in connexion with this treatment is that the discharge is now no longer contagious; at least in Belgium it is always considered when the acetate of lead has been rubbed in that the patients may go with impunity amongst healthy persons, so that soldiers affected with granular lids need no longer be confined and separated from the others, but may, if they are able, resume their duties without danger of spreading the disease. The acetate of lead is best applied in the following manner:—The eyelids having been thoroughly everted and the retro-tarsal fold brought well into view, a small portion of very finely powdered acetate of lead is then taken up in a small cuvette and dusted over the granulations, being well rubbed into the chinks so as to fill them up. The watery discharge from the conjunctiva forms the powder into a thick plasma, which runs through and fills up the furrows between the granulations. When it has been applied to every portion of the granular conjunctiva, a small stream of cold water, either from a sponge or an india-rubber ball syringe, should be made to play upon the conjunctiva in order to wash away any superfluous quantity of the powder, which comes away in small white flakes. Both eyelids may be everted at the same time, so as to fold over and protect the cornea, the powder being rubbed over both eyelids, and the stream of water applied before they are replaced. But if the simultaneous eversion of both lids is difficult, or the patient very restless and unruly, it is better to evert one lid at a time. It is best to commence with the lower lid; for if the lead be applied first to the upper the lower becomes reddened and bathed in tears, so that it will not only be difficult to see the chinks, but the powder will be readily

washed away by the tears, whereas the conjunctiva of the upper lid from its greater expanse can be more readily dried, and the tears are hence of less consequence.

"Directly after the application there is an increased flow of tears, the ocular conjunctiva becomes injected, and this is accompanied perhaps by considerable irritation, heat, and smarting in the eye, but these symptoms will soon yield to the application of cold compresses. In about half an hour the lids should be everted and the conjunctiva again washed by a stream of water, in order that any remains of the lead may be removed. The conjunctiva will now be more smooth and even, the chinks between the granulations being filled up and obliterated by the powder. If the application has been insufficient or too superficial, the granulations will reappear after a time and increase in size and prominence, rendering a fresh application of the remedy necessary. If the acetate of lead is carefully applied and the surplus well washed away, I cannot say that I have ever seen any disadvantage arise from its employment, nor have I found that it roughens the lids, and thus irritates the surface of the cornea. The best mode of applying the solution of the acetate of lead is to evert the lids, and, after drying the conjunctiva with a piece of linen, to apply it with a small brush to the granulations, this being neutralized after a few seconds with tepid water. The strength of the solution should vary from six to ten or twenty grains to the ounce, according to the condition of the conjunctiva, and it should be applied every day, or every other day.

"I most strongly object to the application of undiluted liquor potassæ to the granulations, as this not only more or less destroys the stroma of the granulations, but gives rise to very considerable cicatrices, leading to ectropion, &c."

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## Art. 159.—*On Disturbances of Vision consecutive to Morbid Changes in the Teeth and to Operations performed on these Organs.**

By M. Augias-Turenne.

(*Archives Générales de Médecine*, No. 3, 1869.)

Morbid changes of the teeth, or operations practised on these organs, may determine visual disturbances.

These disturbances generally consist in a diminution of the visual power, which may extend even to complete abolition. This is generally accompanied by dilatation of the pupil without apparent organic changes.

In other cases, however, the change of vision takes place from disturbances of the nutrition of the eye, caused by paralysis or reflex contractions of the vaso-motor nerves.

Young subjects are principally affected.

The teeth of the upper jaw, and among these the molar teeth, seem to be almost exclusively the cause of these disturbances. The affections

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* Communicated to the Académie de Médecine.

disappear with remarkable rapidity after extraction of the teeth, without it being necessary to resort to any other treatment.

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## Art. 160.—*On Tubercles of the Retina and Choroid as Diagnostic Signs of Tubercular Meningitis.**

By M. Bouchut.

(*Archives Générales de Médecine*, No. 12, 1868.)

1. Tubercles may exist in the retina and choroid, and then indicate either tubercular meningitis or general tuberculosis.

2. When a feverish subject presents disturbances of intellect, movement, and sensation, and is affected at the same time with tubercular granulations of the choroid, the existence of tubercular meningitis may be determined.

3. Tubercles of the choroid are among the rarest manifestations of the tubercular diathesis.

4. Tubercles of the choroid are presented under the form of pale miliary granulations, which are sometimes shining and pearly.

5. Retrogressive granulo-fatty metamorphosis of the normal elements of the retina and of the choroidal cells is the origin of tubercles of the retina and choroid.

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## Art. 161.—*On the Ophthalmic Signs of Constitutional Disease.*

By Ernest Hart, Ophthalmic Surgeon St. Mary's Hospital.

(*British Medical Journal*, February 13.)

At a meeting of the Harveian Society of London, held January 21st, Mr. Ernest Hart read a portion of a detailed paper on the Ophthalmoscopic Signs of Constitutional Disease. The nervous and vascular tissues of the eye, as observed by the ophthalmoscope, gave characteristic indications, according to the author, not only of a number of cerebral and spinal diseases, but of many cardiac, visceral, and vascular diseases. The part of the paper read (the whole being too long for the purpose) gave a minute description of the changes of the optic nerve and retina in spinal and cerebral affections. The general views were in most respects opposed to those of Bouchut, whose conclusions were not accepted; those of Galezowski being stated to be more accurate. Mr. Hart said that he had been called upon, from time to time, to give an ophthalmoscopic diagnosis to physicians of St. Mary's Hospital, not only with a view to the elucidation of the degree of organic change accompanying any particular series of brain-symptoms; but in order to help to distinguish between simulated or hysterical and real disease. In private life the ophthalmoscope had decided the diagnosis when the question lay between typhoid and meningitis; and had indicated more than once

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* Communicated to the Académie de Sciences.

impending cerebral or other organic disease where only failure of sight was complained of. In a recent case, he had prevented an insurance company from advancing a heavy sum on the life of a gentleman already insured, but in whom there had been ground for ophthalmoscopic observation, owing to an anomaly of sight. The examination led to the conclusion that the arteries of the brain were atheromatous, which subsequent events have confirmed. Mr. J. Z. Laurence said the subject was one which only ophthalmic surgeons in connexion with general hospitals had much opportunity of following out, and constituted in itself quite a speciality in ophthalmic research. The paper was so full of valuable data that he hoped it would soon be printed for reference and discussion.

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## Art. 162.—*On the Treatment of Granular Ophthalmia and Pannus by Inoculation.*

By J. G. Hildige, F.R.C.S.I., Surgeon to the National Eye and Ear Hospital.

(*Dublin Quarterly Journal*, February.)

The following cases, treated at the National Eye and Ear Hospital, Mr. Hildige writes, show the efficacy of inoculation as a remedy for the cure of the above diseases, when all other means had proved unavailing:—

"Case 1.—Ellen B., aged seventeen, of a healthy and tolerably strong appearance, applied for medical advice under the following circumstances. She stated that when she was four years of age her eyes commenced to be affected, and ever since that time, during a period of thirteen years, she had been almost continually under medical treatment, her sight being occasionally so bad that she was obliged to be led about. On examination I found the cornea of each eye extremely vascular, and so opaque that it was with difficulty she could discern large objects placed near her. The mucous lining of the upper eyelids was covered with granulations and much thickened; it also showed signs of long-continued treatment. She suffered considerably from pain in the eyeballs and temples, which from time to time became so severe, particularly at night, that sleep was completely banished from her pillow. As the usual remedies were followed only by temporary improvement, and as she had been suffering so long from the disease, I resolved to have recourse to inoculation, a remedy which I had seen elsewhere employed with the best possible results, and which was not contra-indicated in this case. The pus was taken from the eye of an infant suffering from acute purulent ophthalmia, and was introduced by means of a camel-hair brush between the girl's eyelids. After the expiration of twenty-four hours considerable irritation, accompanied by pain, set in, and at the end of forty-eight hours both eyes were suffering from an acute attack of purulent ophthalmia. Active antiphlogistic treatment was employed, the disease ran a favourable course, and at the end of fourteen days the inflammatory symptoms had subsided, leaving both corneæ perfectly sound, and showing indications of commencing improvement. Three weeks later both corneæ had become so transparent that the patient could read large type; and at present, four months from the day of inoculation, her eyes are per-

fectly sound, and her sight so good that she can read small type and see distant objects more distinctly than ever she remembers to have done in her life."

Cases 2, 3, and 4 are similar in many respects.

It appears that Mr. Hildige has treated other cases of opacity by this means, and with the same beneficial results. He considers that it may be safely resorted to in every case of granular ophthalmia, except when it is contra-indicated by a strumous or syphilitic diathesis, in which cases diphtheritic inflammation would be the inevitable result.

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## Art. 163.—*On Optic Neuritis and Perineuritis.*

### By Dr. Xavier Galezowski.

(*Archives Générales de Médecine,* No. 12, 1868; No. 1, 1869.)

The following conclusions are given at the end of Dr. Galezowski's memoir:—

1. Optic neuritis is very often produced in dependence upon cerebral tumours and attacks of meningitis.

2. The cerebral tumours inducing optic neuritis are almost exclusively those which are seated in the neighbourhood of the central organs of vision; it is only basilar meningitis seated about the chiasma, which may result in inflammation either of the tissue surrounding the optic nerve, or of the proper tissue of the nerve itself.

3. To distinguish by ophthalmoscopic signs meningitis from a cerebral tumour is in most instances impossible, and it is necessary for this purpose to have recourse to the rational and general symptoms of these affections. It ought, however, to be remarked, that progressive diminution of vision leading to complete blindness, is most frequently the consequence of a cerebral tumour; if, on the contrary, vision be diminished or brightened so that exacerbations or remissions of the disease can be determined, then one can justifiably conjecture a meningitis.

4. Optic neuritis is transformed in the course of some time into a partial or complete atrophy of the papilla. This atrophy, according to Dr. Galezowski, is to be distinguished from progressive atrophy, and especially from that form which has been observed in locomotor ataxy, by the irregular contours which lose themselves in exudation; also by the marked varicose condition and sinuosity of the central vessels.

To these purely ocular phenomena it is necessary to add the general symptoms which are peculiar to each of these affections. Occipital pains, convulsive or epileptiform attacks, weakness of the legs, vertigo and vomiting, and paralysis of the seventh, eighth, or fifth pair almost always accompany tumours which are seated in the neighbourhood of the tubercula quadrigemina, and in the anterior and superior part of the cerebellum, the cerebral peduncles, the fourth ventricle, &c.

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## Art. 164.—*Treatment of Disease of the Lachrymal Sac.*

By Prof. Alfred Graefe, of Halle.

(*Zehender's Monatsblätter für Augenheilkunde*, August, 1868; and *New York Medical Journal*, February, 1869.)

The author suggests one or two new points. To aid in voiding the sac of secretion, he causes the patient to perform the manœuvre of Valsalva, namely, blowing forcibly while mouth and nose are closed. If this be done immediately after a probe has been passed, the air will find its way into the lower end of the nasal duct and escape by the canaliculi, bringing with it more or less of the catarrhal secretion. For two or three days only will this manœuvre be practicable, when another introduction of the sound will permit it to be repeated for another period. To avoid the accident of emphysema, which might ensue if the probe have torn the mucous membrane, Professor Graefe cautions us to put the finger lightly on the sac, as the patient is blowing for the first time. After the passage has been dilated a little, there is slight danger of this occurrence.

Professor Graefe also uses a douche apparatus, recommended by Dr. Herzenstein, in place of a syringe, for effective cleansing of the passages —a small tube is inserted into the canaliculus, and this by a flexible tube connected with a pump.

But cases are sometimes met in which the stricture is wholly overcome, and the catarrhal secretion dried up, while epiphora continues. In one such case the cause was found to be hypertrophy of the caruncle, which, by pressing on the canaliculus, impeded the entrance of tears. The excision of the caruncle relieved the epiphora. The mass need not be very large to cause such trouble; and in cases where the duct is brought to proper size, the catarrh of the sac is cured, the eyelids are in correct position, and the muscular apparatus sound, and yet epiphora continues, Professor Graefe recommends the trial of this operation of excision of the caruncle.

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## Art. 165.—*Treatment of Stricture of the Lachrymo-nasal Passages by Internal Division.*

By Dr. Warlomont.

(*Annales d'Oculistique*, tome lx., Sept.—Oct., 1868.)

The mode of treatment suggested by Dr. Stilling has been adopted by Dr. Warlomont, and in the above paper he narrates the history of eight cases, and says that he has treated a score besides, whose history is absolutely the same. Whether the cure will be permanent, he does not affirm positively, but in some an experience of five or six months has exhibited complete relief from lachrymal trouble.

One case (obs. iv.) is that of a young and pretty girl, twenty years old, who for more than three years had been treated by Bowman's probes, and could pass No. 4. This was done twice a week, but the epiphora continued. After having Stilling's operation done, she found

herself in a week more comfortable than for three years previous. The cure became complete, and was known to remain for five months.

In some cases the canal was found beset by rugosities, and the obstruction to be so hard as to creak under the knife. It was necessary sometimes to use considerable force. In all cases the small conical sound of Weber was first used, both to explore the canal and prepare the way for the knife, by dilating the passage as fully as it was capable of doing. After the stricture had been freely divided, an injection of warm water was sometimes made on the following day. Usually the catarrhal secretion from the sac began to diminish, the swelling of the sac to subside, and fistulous openings to close without any further treatment. Slight conjunctivitis would also disappear, while troublesome ophthalmia tarsi and ectropium would require a few weeks' treatment.

If, in extreme cases of lachrymal catarrh, the disease did not disappear spontaneously, Dr. Warlomont recommends a proceeding, devised by Dr. Libbricht of Gand, for facilitating the introduction of medicated fluids into the sac. A stylet made of platina, in size equal to Probe No. 1 of Bowman, and grooved on three sides, is worn in the nasal duct. It is about one and a half inches long, and bent at its upper end into the form of a hook, so as not to sink out of place. It is designed to favour the penetration of fluid, which may be simply dropped into the inner angle of the lids. The substance preferred by Dr. Libbricht is chloride of zinc in solution of about gr. $\frac{1}{2}$ to ʒj, dropped into the eye three times daily, and continued seldom longer than two or three weeks. This mode of proceeding is a good substitute for injections by the syringe, which require to be done by the physician, and are consequently not done as often as the disease requires.

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## Art. 166.—*The Application of Artificial Eyes* (*Prothesis Oculi*).

### By J. Soelberg Wells, Professor of Ophthalmology in King's College, London, &c.

In his elaborate treatise on *The Diseases of the Eye*, Mr. Wells writes:—The use of an artificial eye should not be allowed until five or six weeks after the excision — until the cicatrix has become firmly united, and the parts are quiet and free from all irritation. If the eye has been removed on account of sympathetic irritation of the other, special care must be taken that no artificial eye is worn until all the sympathetic symptoms have permanently disappeared for some months, and the eye must be carefully watched for some time afterwards, lest the artificial eye might re-awaken them. Indeed, the wearing of an artificial eye for too long a time, so that it sets up great irritation, may even give rise to sympathetic disease.

At first a small eye should be worn for a short time each day, and then, when the parts have become accustomed to it, and there is a complete absence of all symptoms of irritation, a larger one may be adopted and worn for a longer period, and at last the whole day, but it should

*always be removed at night.* After the lapse of some months the internal surface of the eye becomes rough, and as this is a ready source of irritation and discomfort, a new one is required.

As the insertion and removal of the artificial eye require some little knack and practice, Mr. Wells subjoins the following concise and plain rules, which are given to the patients at the Royal London Ophthalmic Hospital:—

*Instructions for persons wearing an artificial eye.*—It should be taken out every night and replaced in the morning.

*To put the eye in.*—Place the left hand flat upon the forehead, with the fingers downwards, and with the two middle fingers raise the upper eyelid towards the eyebrow; then with the right hand push the upper edge of the artificial eye beneath the upper eyelid, which may be allowed to drop upon the eye. The eye must now be supported with the middle fingers of the left hand, whilst the lower eyelid is raised over its lower edge with the right hand.

*To take the eye out.*—The lower eyelid must be drawn downwards with the middle finger of the left hand, and then with the right hand the end of a small bodkin must be put beneath the lower edge of the artificial eye, which must be raised gently forward over the lower eyelid, when it will readily drop out; at this time care must be taken that the eye does not fall on the ground or other hard place, as it is very brittle, and might easily be broken by a fall.*

After it has been worn daily for six months the polished surface of the artificial eye becomes rough; when this happens it should be replaced by a new one; for, unless this is done, uneasiness and inflammation may result.

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## Art. 167.—*A Case of Calcification of the Choroid, Ciliary Processes, Crystalline Lens, and Capsule.*

By Chas. A. Hart, M.D., New York.

(*New York Medical Journal*, December, 1868.)

J. Krissinger, aged about fifty-five years, was presented to Dr. Hart, June 25th, by Dr. W. A. Garman, of Berlin, Somerset County, Pa., who requested him to examine the patient for a supposed cataract.

The history rendered was as follows: Twenty years ago the patient began to experience a loss of vision in both eyes, which, after a considerable period, rendered him totally blind in the right organ, vision being still preserved to a limited extent in the left; this condition being attended with considerable pain, relief was sought, and he presented himself to Dr. Gross, of Berlin, who pronounced his case one of hard cataract, and finally attempted the operation of depression, which afforded no relief. He has been the subject of frequent rheumatic attacks. Objectively the appearances presented, when Dr. Hart saw him, were as follows: The globe was atrophic, the cornea presented

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* In order to avoid this accident, the patient should stoop over a cushion or handkerchief placed on a table, or over a bed.

evidences of former inflammatory action, having a roughened and semi-opaque appearance. The pupillary space was occupied by a dirty yellowish-white body. The iris having lost its power of action, was uninfluenced by either light or solution of atropia.

Neither the ophthalmoscope nor concentrated light revealed anything beyond the dense character of the lens.

The patient was very much distressed by the constant pain he was suffering, and there seemed to be no chance of relief other than enucleation, which being proposed, was accepted. Accordingly Dr. Hart performed the operation on the 30th of June. The morbid changes, found upon an examination of the eye, were a complete calcification of the choroidal tunic, very dense about the optic disc, gradually thinning off toward the ciliary processes, which were also filled with calcified deposits, though not in a perfect state of organization; none of the true choroidal tissue could be discovered. The retina was thickened, and in several places detached; the optic disc was atrophied, with no trace of the vessels remaining. The vitreous body was broken down and changed into a fluid mass, which contained a quantity of crystalline matter resembling cholesterine, though Dr. Hart cannot assert that it was such, being without a microscope at the time. The crystalline lens and capsule were both found in the normal position; the capsule being thickened and opaque, and when opened grated under the knife like sand, revealing the lens shrunken in diameter and completely calcified, together with an unorganized white crystalline paste, which, having since been examined with the microscope, proves to be crystals of cholesterine with a few of the phosphate of lime. The lens was examined, by deflected light through the bull's-eye condenser, with the one-inch objective; the surface was a yellowish-white colour, perforated by numerous minute foramina. Nothing resembling the minute structure of bone could be discovered. The patient recovered nicely from the operation, and has since been entirely free from suffering.

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## Art. 168.—*An Improvement upon Politzer's Method of Injecting Air into the Eustachian Tubes in certain Cases of Deafness.*

By John Brunton, A.M., M.D. London.

(*Glasgow Medical Journal*, November, 1868.)

Politzer's method of injecting air into the Eustachian tubes is based upon the fact, that when the *circumflexus* or *tensor palati* muscle is put upon the stretch in the act of swallowing, the mouth of the Eustachian tube is opened, and air is allowed to enter the tube.

Politzer directs the patient to take a mouthful of water; the operator then inserts a canula into the right or left nostril, as the case may be; attached to this canula is an india-rubber bag filled with air; on the patient making a sign that he is about to swallow, the operator, closing the nostrils of the patient upon the canula with one hand, so as to prevent all egress of air, as the patient swallows squeezes the bag,

thereby injecting a strong current of air, which immediately rushes up the mouth of the Eustachian tube, which has been opened by the action of the *circumflexus* or *tensor palati* muscle in the act of swallowing.

This method is very useful in many cases, especially those of a catarrhal nature, often restoring the loss of hearing in a manner that seems marvellous to the patient. Nevertheless, advantageous as the operation may be, it has often unpleasant disadvantages. Sometimes the movement of the patient (the act of swallowing) and the movement of the operator (the act of pressing the bag) are not exactly in unison, and the consequence is, that unpleasant fits of coughing follow by too early pressure of the air, or no injection of air takes place by a too late pressure, necessitating a repetition of the process, which may or may not be very acceptable to the patient.

On account of this, the improvement which is described below suggested itself to Dr. Brunton, in consistence with those movements of harmony which abound in the human system. The improvement consists in allowing the patient to be himself both the subject and the operator.

The apparatus consists of an india-rubber bag (10 oz.), to which is attached a sufficiently long flexible tube, so that the bag may rest on the floor. To the other end is fixed a gum elastic canula, which the patient passes into his nostril. He then takes a mouthful of water, and as he swallows, holding his nostrils tight with the fingers, presses the bag with his foot, and thereby injects the requisite air.

Dr. Brunton has used this apparatus a good many times, has found it invariably satisfactory, and free from the unpleasant results above-mentioned. The movements are in unison.

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## Art. 169.—*Pruritus Cutaneus of the Meatus Auditorius.*

### By Dr. Gruber.

(*Allgem. Wien. Med. Zeit.*, December 29; and *British and Foreign Med.-Chir. Review*, April.)

Dr. Gruber draws attention to this affection, which he says is either overlooked or treated too summarily in treatises on diseases of the ear. Itching of the passage is often met with during the progress of affections of the ear attended with inflammation, or oftener at the end of these when desquamation is set up; but this soon passes away. Eczema of the meatus is a severe affection, but yields sooner than eczema in other parts of the body, at least as far as the itching is concerned. The affection indicated in this paper, however, is the pruritus cutaneus of Hebra. Of this the intense itching of the meatus constitutes the only subjective or objective symptom, the lining of the passage exhibiting no trace whatever of any changed appearance. It is true that in aged persons suffering from it the passage may be found very dry, without a vestige of cerumen, but that this is no essential feature is seen in other cases in which the secretion is found in excess. The pruritus is oftenest met with in persons of middle age, and especially in those in whom there exists some disturbance of the circulation. Thus, persons suffering from hæmorrhoids or large varicose veins seem very liable to it, although

even children are not exempt. The itching often comes on periodically, *e.g.*, in the evening, the patient having been completely free from it during the day. Oftentimes it may be absent for months, to return again with distressing severity. In the cases seen by Dr. Gruber the affection has been strictly local, no other part of the body participating in the irritation. Sometimes, as the result of constant scratching, artificial eczema, inflammation, &c., may be set up. As a palliative during the attack a few drops of some watery or oily fluid, as glycerine or almond oil, may be dropped in with good effect. The more habitual sufferers should be taught to pencil the passage with these, or ointments, such as the *crème céleste;* and those whose night's rest is liable to be disturbed should on going to bed introduce lint imbibed with these substances, and leave it in. As a more radical means, Dr. Gruber has derived much advantage from the daily pencilling the meatus with a strong solution (gr. x ad ʒij) of the nitrate of silver. This should be done in a good light so as to avoid the membrana tympani, and must not be continued after signs of reaction appear. When this has subsided, if the itching still continue, the pencilling must again be resorted to.

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## Art. 170.—*The Caustic Treatment of Purulent Catarrh of the Ear.*

By Professor Schwartze, of Halle.

(*Medical Times and Gazette,* May 15.)

As the advantages of the caustic treatment of the purulent catarrh of the ear seem not to be sufficiently known, the author does not think it superfluous to call the attention of his professional brethren to this method of treatment.

To decide whether the caustic treatment becomes necessary or not, the most accurate examination of the ear is required. If this examination shows no granulations upon the exposed mucous membrane of the tympanum or upon the rest of the membrana tympani, and no symptoms of ulceration of the bone, then success, Professor Schwartze writes, may be expected with almost absolute certainty.

To recognise small granulations, however, has often its difficulties to not very practised eyes. It would not surprise the author therefore to be told that the method has proved unsuccessful where, in reality, the examination bears the fault. Even the small trachom-like granules which are often found upon and near the margins of older defects in the membrana tympani, contra-indicate the application of this method. Neither those nor isolated larger ones disappear, as far as Professor Schwartze's own experience goes, by touching with even the strongest solutions of nitrate of silver. They always require the application of the nitrate of silver in substance, or, if a more speedy result is demanded, the galvano-caustic cauterization. Still less benefit can the method have, of course, if there are larger polypous excrescences. In caries the ichorous discharge is somewhat limited by the cauterization, and the fœtor diminished, but the cure is never in any considerable degree pro-

moted. Astringents, even used in the weakest solutions, increase the pain, as is well known, whilst the other treatment is borne without increasing the same.

The caustic method is very aptly applied to all cases which show a hyperæmic, swollen, lax, and succulent mucous membrane, regardless of the duration of the disease. In recent cases an application twice or three times repeated will suffice. In older cases, where astringents have been used in vain for a long time, the cauterization must be more frequently repeated. The change for the better is almost without exception perceptible after the third or fourth cauterization, and manifests itself by diminution of the swelling and redness, and by a considerable abatement of the secretion. The strength of the solution used for the cauterization of the mucous membrane depends upon the existing swelling and injection. Professor Schwartze is in the habit of using fifteen grains of nitrate of silver to the ounce for the weakest, and forty grains for the strongest solution. As Wilde has recommended it in purulent inflammation of the meatus externus, the author at first touched the rest of the membrana tympani and the exposed parts of the mucous membrane with a small hair-brush attached to bent pincers. Very soon, however, he was convinced of the impracticability of this method of application, it being impossible to reach all the parts of the tympanum with the brush. He therefore pours the solution always into the ear. Before doing this it is necessary to remove all the secretions most carefully by syringing the meatus externus and by blowing through the Eustachian tube. After this the ear must be carefully wiped with the help of the speculum. The latter is best done by means of fine charpie or cotton fastened to the blunt ends of a pair of small pincers. Should some of the secretion or of the injected water remain in the tympanum, the solution of course does not come at all, or at least not in the desired concentration, in contact with the diseased membrane. The pouring in of the warmed solution may best be done by a small glass pipette or a small shallow china cup. Fifteen drops of the solution are usually sufficient. The longer the solution remains in the ear the stronger of course is the caustic effect. In accordance with the state of the mucous membrane, the solution therefore is left in the ear from some seconds to one minute or longer. To bring the solution during this time as much as possible in contact with the membrane, it suffices in cases of large defects of the membrana tympani to turn the head in different directions, particularly towards the back. In cases of small perforations it will be necessary to press air through the Eustachian tube while the solution is in the ear (Politzer). A still surer success may be obtained, in the author's opinion, by applying strong pressure of the fluid column in the meatus with the help of a thick india-rubber tube hermetically applied whilst the head is slightly bent towards the opposite side. By this proceeding the solution is forced to find a way through the perforation into the tympanum, and arrives thence into the pharynx, if the mucous membrane of the Eustachian tube is not very much swollen. Those healthy parts of the mucous membrane in the Eustachian tube and the cavum pharyngo-nasale which are touched by the solution will not be hurt dangerously if neutralization at once takes place. To this end the solution is removed by turning the head to the opposite direction and by making a

strong injection of lukewarm salt water immediately after it. To remove the chloride of silver and the superfluous chlorate of potash which remains in the ear, a few full injections of lukewarm water must follow. Should the caustic solution have gone as far as the pharynx, the salt water must be applied there in the same manner as the solution got there. After having repeatedly wiped dry the ear, charpie or a small setaceum of linen is introduced deep into the ear. The charpie remains there till the cauterization is to be repeated, and it shows the quantity of the matter in the meantime secreted. The cauterization must not be repeated until the eschar has been completely thrown off. This is shown, as is well known, in the form of whitish spots sitting upon the mucous membrane. The more succulent the membrane was, the sooner will the eschar be thrown off. In exceptional cases it may therefore be necessary to apply the cauterization twice a day. As a rule, however, it will suffice to cauterize once a day in the above described manner. When the swelling decreases it will be sufficient to repeat it once every two or three days. It is not seldom the case that, even after the first cauterization, the appearance of the mucous membrane is so much changed and the secretion so considerably diminished that the solution cannot be continued in the original strength, but has to be weakened. If the cauterization is repeated too late—*i.e.*, after renewed swelling and hypersecretion of the membrane—the effect is almost as bad and slow as by the usual astringent treatment.

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## Art. 171.—*Mechanical Dilatation of the External Meatus of the Ear, with Compression of its Lining Membrane in Cases of Otitis Externa Acuta.*

By J. Gottstein, M.D.

(*Centralblatt f. d. Medicin. Wissenschaften,* December, 1868 ; and *American Journal of the Medical Sciences,* April.)

The author, contrary to the commonly received opinion that in diffused acute inflammation of the external meatus of the ear any attempt at forcible dilatation of the canal would most certainly augment the existing disease, recommends this very procedure for its cure if there be the least sign of contraction of the meatus. In two cases he trusted entirely the cure of the otitis to methodical dilatation and compression by means of tents of compressed sponge. In all cases of acute diffused *otitis externa*, Dr. G. recommends the introduction, as deep as possible into the meatus, of a conical-shaped portion of pressed sponge, about 3-4 cm. long, and 2·3 mm. in diameter at its largest end, to be kept constantly moistened by a few drops of lukewarm water; the sponge to be allowed to remain for from six to twelve hours, or even longer: the moistening with tepid water to be renewed at the end of every two hours. This latter is all-important to facilitate the withdrawal of the tent. Ordinarily the introduction of the latter is not productive of pain. Its presence in the meatus gives rise only to a sense of distension; while in every instance, Dr. G. assures us, the symptoms due to the otitis rapidly diminish.

When suppuration has taken place, if slight, it will be found, we are assured, to be rapidly arrested. When the suppuration is of considerable extent, under the treatment by sponge-tents the pus can be allowed a ready discharge, the meatus kept clean, and, when called for, local remedies easily applied. In all cases treated as above, the course of the inflammation, we are assured, was cut short, in many with great promptitude.

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## Art. 172.—*On Cancrum Oris.*

### By Thomas R. Glynn, M.B. Lond.

(*British Medical Journal*, March 13.)

At a meeting of the Liverpool Medical Institution, held Nov. 5th, 1868, Dr. Glynn read a paper on Cancrum Oris. After alluding to its various synonyms, and the several affections which it had been used to designate, the author remarked that he confined the term to those cases in which gangrene of the lip and cheeks, one or both, was a prominent feature. He thought that evidence was in favour of its not being a specific disease; for, first, it never attacked a child as a distinct disease, preceded by characteristic symptoms, though some had affirmed that it did; second, it was always the consequence of some severe illness, especially the eruptive fevers, and most frequently measles; third, it was not infectious, though it was sometimes epidemic, but only as a consequence of the exanthemata. It had very rarely attacked several children in a family simultaneously. Some thought that the swelling began as a hard substance of the cheek, others that the mucous membrane was first attacked. The gangrene appeared to depend upon great deterioration of the blood, from a general adynamic state which might arise from many and various depressing causes. Other parts might be attacked, but in children the gangrene commonly affected the lips and cheeks, probably from peculiarities due to age and the structure and relations of the parts. It always presented the same characters. In adults, cancrum oris was a much rarer complication of fevers than gangrene of the extremities, which also sometimes occurred in diabetes and other diseases. It was, however, not unknown amongst adults. Thus it was very common among our soldiers in the Crimea, and several cases of it had been recorded in the journals. The fact that the mucous membrane of the mouth was more prone to get out of order in children, and that measles occurred chiefly among them, would partly account for their greater liability to cancrum oris. There did not appear to be any connexion between it and teething. It had been known to occur at as early an age as nine days. Girls were more subject to it than boys, and the majority of the cases occurred in large towns and manufacturing districts. Gangrene rarely attacked both cheeks, except as the result of mercurial salivation. It was emphatically a disease of the poor; unfavourable hygienic conditions acting as the predisposing cause, and the acute malady as the exciting cause. In some cases it was attended with symptoms almost like scurvy, and the author had seen a case in which there were œdema of the feet, and ecchymoses in various parts of

the body. He considered it not improbable that there was some intimate relation between scurvy and cancrum oris. Mercury had been stated to be the most common cause of the disease, but this was not really the case, though it did sometimes produce it. Examination of the parts after death had not added much to the pathology of the disease. The chief point observed by Rilliet and Barthez was, that the vessels were completely obstructed by firm clots; but this was probably only a consequence. Billard believed that the sloughing was due to the swelling and œdema obstructing the circulation. The author, however, did not agree with him; he considered it to be the result of a low erysipelatous inflammation beginning in the interior of the mouth. Gangrene of the anus, vulva, &c., sometimes occurred as complications of cancrum oris, but the most frequent lesion observed after death was pneumonia, which might be secondary to the gangrene or to the disease that caused it. Pleurisy and pericarditis had also been met with. The rate of mortality in cancrum oris was excessively high. In treatment, the local application of the actual cautery, or of strong corrosives, had always been recommended, in order,—1, to thoroughly disinfect the surface by destroying all dead matter; 2, to check the spread of the gangrene by destroying adjacent tissue; 3, to excite by stimulation a more healthy inflammation. The author was of opinion that, before applying escharotics, the general condition should be consulted; for if the patient were in a low and typhoid state, the caustic could only be productive of evil by irritating, and could not excite healthy inflammation. Nitric acid might be of great service at the commencement, or when there was not much depression; but its repeated application, as recommended by some, would only be productive of evil. By the use of powerful antiseptics discovered at the present day, all dead matter could be thoroughly removed from the diseased surface. The modern constitutional treatment was by tonics and stimulants. The author then gave the details of two cases which had been successfully treated by the use of chlorate of potash wash, and the internal administration of ammonia, chlorate of potash, and bark, with beef tea, wine, and brandy. In one of these cases two relapses had taken place; one from exposure while a dressing was being changed, and on another occasion after the removal of necrosed bone. In this case a hole had been left, and the movements of the lower jaw had been interfered with; but probably these could be remedied by operation.

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## Art. 173.—*Case of Salivary Calculus: with Remarks.*

By Joseph Bell, F.R.C.S. Ed., Lecturer on Surgery, Edinburgh.

(*British Medical Journal*, February 20.)

The following cases seem to be tolerably characteristic examples of a disease not very common, and regarding which little specific information is given in the more familiar text-books:—

"Case 1.—A. B., aged nineteen, called on me in April, 1868, in great mental distress. She was a strong, healthy-looking, and very attractive

young lady. For two years she had noticed a tumour under her tongue to the right side of the middle line; but, as it seemed stationary and gave her no pain, she had never mentioned its existence to any one; for some months, however, it had been rapidly increasing, and within the last few weeks still more rapidly, and had given her most acute pain. She was now certain that she was suffering from cancer of the tongue.

"*Present Condition.*—On opening the mouth, there was seen on the right side of the tongue a red, fungating, angry-looking tumour as large as a walnut, which forced the tongue upwards so as to interfere with speech, and certainly had a most malignant-looking aspect. It was of stony hardness, and contained no fluid. Trusting to her appearance of perfect health, I excised the projecting portion of the tumour with probe-pointed scissors. Considerable hæmorrhage followed, and no cavity or calculus was exposed as I had hoped. However, by cautiously continuing my incision into the densely fibrous substance of the tumour, I was at last rewarded by extracting an oval calculus, about three-quarters of an inch in length. The relief to the pain was instantaneous, and in a very few days the tumour had entirely disappeared. There has been no return.

"Case 2.—Miss F. M., aged thirty, consulted me in December, 1868. She stated that for the last eight years she had noticed a tumour under the right side of her tongue, which had been frequently the seat of uneasy sensations; at times it had given acute lancinating pain, and latterly, from its size, had interfered with speech and deglutition. All the symptoms had been increasing during the last twelve months. She had consulted at different times two different surgeons, who had both counselled delay. I found that the tumour was of stony hardness, and that a small portion of it projected forwards into the mouth. A free incision enabled me very easily to remove a calculus of peculiar shape, twisted like a ram's horn, and about an inch and a half in length, and of a bright orange colour. All the symptoms disappeared along with the tumour.

"Remarks.—Salivary calculi are generally found at the orifices of the Whartonian ducts, or in those of the smaller ducts of the sublingual glands. (Craigie's *Elements of General and Pathological Anatomy*, p. 829). They are very rarely found in the duct of the parotid. In most cases, their presence is easily detected by a probe or even by the finger, as they project close to the extremity of the duct, and an incision over them renders removal very easy. Occasionally, even in this comparatively superficial position, they have been the cause of so much irritation as to be mistaken for cancer. (Holmes's *Dictionary of Surgery*, vol. iii. p. 907). Salivary calculi are occasionally described as either complications or causes of ranula; this seems not to be a correct way of putting the case; for though some cases are seen in which the salivary calculus has caused by its mechanical obstruction of the duct a temporary collection of saliva behind it, the fluid which is liberated by its removal has not the consistence or appearance of the fluid met with in ordinary cases of ranula. In the two cases recorded above, the calculi were more deeply seated, being rather in the substance of the gland than in the duct, and the second one especially is remarkable for the long duration of the symptoms. In both the walls of the tumour in which the calculi were imbedded were very firm and hard;

in neither was there the slightest accumulation of either saliva or the glairy fluid of a ranula. A case recorded by Gross of Philadelphia (Gross's *Surgery*, 3rd ed., vol. ii. p. 479) seems to have resembled mine in the obscurity of some of the earlier symptoms. Probably, if left alone, the natural course of such calculi is, as South says (South's *Chelius*, vol. ii. p. 406), to escape by ulceration into the cavity of the mouth; but my cases showed that this may, in some cases, involve a very long and a very painful process, before any progress in such ulceration results. Excision in every case is easy, painless, and satisfactory. I have preferred, for the sake of brevity, rather to refer to authorities on this subject than to quote them."

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## Art. 174.—*Removal of the Entire Tongue.*

### By Dr. Fenwick, of Montreal.

(*New York Medical Journal*, February.)

Dr. Fenwick, of Montreal, Canada, assisted by Professor G. W. Campbell, of the McGill University, removed the entire tongue on account of epithelioma, on the 20th of November last. The operation was speedy and bloodless, and quite similar to that of Mr. Nunneley, of Leeds, England. The mouth was entered from the floor, the incision being in the median line, between the chin and hyoid bone—the dissection being then carried between the genio-hyoid muscles. Through this opening the chain of a Chassaignac's écraseur was carried on a long curved needle back to the base of the tongue, close to the epiglottis. The process of cutting through the tongue with the chain occupied nine and a half minutes. The case progressed most favourably, the patient being able to return to his home, a distance of one hundred and ninety miles, on the twelfth day after the operation. This is said to be the first occasion of the performance of this operation in Canada.

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## Art. 175.—*On Tracheotomy in Syphilitic Lesions of the Respiratory Passages.**

### By M. Ulysse Trélat.

(*Gazette Hebdomadaire*, No. 50, 1868.)

The following conclusions are given as a *résumé* of Dr. Trélat's contribution:—

1. The syphilitic lesions of the respiratory passages which necessitate tracheotomy may appear at any period of syphilis, but are more frequent during the tertiary period. They vary in nature, seat, and extent. Still they are so much the more common as they approach nearer to the superior orifice of the larynx.

2. The commencement of the symptoms of obstruction may be rapid, but generally it is slow, and should be watched with care, as it furnishes an element of the diagnosis.

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* Communicated to the Académie de Médecine, December 9, 1868.

3. The attentive study of the symptoms and signs which characterize the obstructions of the larynx, and those of the trachea, demonstrate that it is possible to distinguish these two orders of lesions, which are so important to be recognised with regard to prognosis and treatment.

4. The diagnosis of these lesions is based upon the preservation or disappearance of the voice, upon the epoch of the appearance of dyspnœa, and upon laryngoscopic examination.

5. Tracheotomy gives excellent results in cases of laryngeal obstruction. In cases of obstruction of the trachea it has as yet been attended with no favourable results.

6. When the operation is indicated it should be executed without delay, as death may take place rapidly in consequence of an attack of suffocation.

7. Although tracheotomy offers but little chance of success in cases of tracheal obstruction, it should nevertheless be attempted after a diagnosis, which might be rectified and rendered certain during the course of the operation.

8. The operation may be modified in consequence of the nature of the lesions, and success cannot be expected unless it is possible to penetrate and dilate the contraction with a proper canula. In contrary cases the obstruction is fatal.

9. When tracheotomy is followed by recovery, the time during which the canula should be retained varies directly with the nature of the lesion. Its removal as soon as possible after the operation is indicated, and the medical treatment is then to be unceasingly pursued.

10. The employment of M. Brocas' canula (with a limited opening during inspiration) will allow the surgeon to determine exactly the time when he may withdraw the canula, and allow the wound to close without running any danger.

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## Art. 176.—*On the Statistics of Ligature of the Subclavian Artery.*

(*Transactions of the American Medical Association,* vol. xviii.)

The following remarks on a statistical table containing 157 cases of ligature of the subclavian, are given in the report of a Committee to whom was referred the subject of this operation:—

Upon a revision of the statistics included in an appended table, and the report contained in Circular No. 6, together with the cases reported by Pirogoff, we find that the subclavian artery has been tied in 196 instances. The operation has been followed by death in 107, and by success in 88, being a mortality of 54·5 per cent.: the result of one case is not given.

As regards sex, the operation has been performed on 138 males and 14 females, which makes the ratio between the sexes in favour of the males as 9 to 1.

The age of the person operated upon is noticed in 129 cases. The youngest is eighteen years, and the oldest seventy-three years; the mean being thirty-eight years and about two months.

As regards the *side affected*, this point is noticed in 134 cases. Of these, 82 were on the right side, and 52 on the left.

The *earliest period of separation of the ligature* recorded is the 8th day, the latest the 113th day, the mean the 21st day.

In the case of *aneurisms*, the *proximal* ligature has been applied in 110 cases, with 48 deaths; a mortality of 43·6 per cent.

The *distal ligature* has been applied in 10 cases, with 8 deaths; a mortality of 80 per cent.

The number of deaths following the proximal ligature for traumatic axillary aneurism is 8 out of 24 cases, a mortality of 33·3 per cent.

The subclavian has been tied in 29 instances for *subclavian aneurism*, of which 24 were idiopathic and 5 traumatic. Of the former, the *proximal* ligature was applied in 22 cases, with 13 deaths, and the distal in 2 cases with 2 deaths. Of the latter, the whole 5 cases were treated with the proximal ligature, with 3 deaths.

Eight cases of *aneurism of the innominata* are reported, in which the distal ligature was applied to the subclavian. Of these 6 were fatal.

The subclavian has been tied for causes *other than aneurism* in 70 instances. Of these, 48 were fatal, a mortality of 68·5 per cent.

The subclavian in its *first division* has been tied 13 times without a single recovery.

In its *second division* it has been tied 9 times, with 4 deaths.

In its *third division* it has been tied 174 times, with 89 deaths.

*Hæmorrhage* occurs as a cause of death in 29 cases out of 67 reported. Next in order is *exhaustion*, 11 cases, and *gangrene*, 8. Pyæmia, pleurisy, rupture of the sac, &c., complete the list.

In looking over the table for the purpose of discovering whether there has been any diminution in the death-rate as the result of past experience, or other causes, the percentage of mortality has been ascertained as nearly as possible for decades with the following results:—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1800 to 1810 . . . . | 2 | cases, | 1 | death, | 50 | percentage. |
| 1810 „ 1820 . . . . | 8 | „ | 5 | deaths, | 62·5 | „ |
| 1820 „ 1830 . . . . | 24 | „ | 11 | „ | 45·8 | „ |
| 1830 „ 1840 . . . . | 41 | „ | 21 | „ | 51·2 | „ |
| 1840 „ 1850 . . . . | 25 | „ | 10 | „ | 40 | „ |
| 1850 „ 1860 . . . . | 27 | „ | 14 | „ | 51·8 | „ |
| 1860 „ 1867 . . . . | 60 | „ | 39 | „ | 65 | „ |

## Art. 177.—*Case of Lipoma Nasi.*

### Under the care of Mr. Hulke, of the Middlesex Hospital.

(*The Lancet*, March 13.)

A coachman, aged forty-nine, was admitted into the Middlesex Hospital on May 5th, 1868, with an enlargement and redness of the tip and sides of his nose, with dilatation of the orifices of the sebaceous follicles, which disfigured him so much that no one would engage him.

The lipoma was shaved down by repeated slices till the fibro-cartilage

could be seen. The bleeding was soon arrested by pressure and ice, and the wound was dressed with unguentum simplex.

The patient left the hospital on the 1st of June, with a smooth even scar, and his personal appearance greatly improved.

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## Art. 178.—*On Popliteal Aneurism occurring in Diabetic Patients, and on its Treatment by Forcible Flexion.*

By M. Verneuil.

(*L'Union Médicale*, No. 129, 1868.)

The following conclusions were given in a paper communicated to the Académie Impériale de Médecine:—

1. The coincidence of glycosuria with spontaneous aneurisms has not yet been pointed out; it merits, however, the most serious attention, for it has a particular influence on the choice of the curative method, and moreover raises fresh questions concerning the etiology of aneurisms and the composition and properties of the blood in diabetic patients.

2. It contra-indicates the ligature in a manner almost absolute, and also renders mechanical compression very difficult by predisposing the formation of sloughs under the compressing pads.

3. Notwithstanding its mixture with glycose, the blood seems to preserve its plastic properties, or, in other terms, its aptitude to deposit within the sac fibrinous layers or active clots.

4. The anti-diabetic regimen, very different from that generally prescribed during the mechanical cure of aneurism, does not appear to destroy this aptitude. It seems therefore prudent to carry it out when the general condition requires it, and to continue it even after the apparent or real disappearance of the glycose.

5. In cases of popliteal aneurism, forcible flexion of the leg upon the thigh is a very important method, and requires to be again investigated. It is harmless, readily employed, not troublesome, since it requires neither costly apparatus nor numerous assistants; it requires some intelligence and patience on the part of the patient, and on the part of the surgeon, active watching.

6. In some cases it has been followed by very rapid success, but even when the first attempts have been fruitless, it may at length prove successful after a long employment with short sittings and wide intervals.

7. Its efficacy depends, without doubt, on certain conditions hitherto but little studied, such as the position and dimensions of the vascular fissure, the relations, the dimensions, and consistency of the sac; in some cases it acts by causing indirect compression.

8. The prolonged faulty position of the joint presented in M. Verneuil's case no serious inconvenience; the articular stiffness gradually disappeared, and all the movements of the joint were restored.

9. The cure in this case required a long time; but it must be acknowledged that without the flexion it would probably have been impossible and undoubtedly more painful and dangerous.

10. In M. Verneuil's case some benefit was derived from the other

accessory means of direct and indirect compression, but still forcible flexion had taken the chief part in the cure.

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## Art. 179.—*Treatment of Derbyshire Neck.*

(*The Lancet*, January 2.)

Dr. Lücke, of Berne, has lately published, in the *Berliner kl. Woch.* (Dec. 28th, 1868), an article, in continuation of a former paper inserted in the same journal, touching the method of treating hard goître by injections of strong tincture of iodine into the parenchyma of the tumour. In small goîtres, one puncture at a time, with the syringe of Pravaz half filled with tincture, seems enough; in larger growths, two punctures may be made at the same same. These injections should be renewed at intervals, which the author cannot fix beforehand. If the local and general reaction is not considerable, the operation may be pretty often repeated. The reaction may be very powerful, and it will therefore be proper not to attempt the injections when the patient is in danger of being asphyxiated by the pressure of the tumour. Dr. Lücke mentions cases where reduction of the growth took place very rapidly; and he congratulates himself on his success. When, from its mobility, the tumour cannot easily be punctured by the canula, the author advises the use of a continuous current by means of needles implanted in the parenchyma; but this method has not been very successful in his hands. Large masses of strumous glands might also be treated by injection of tincture of iodine into their interior.

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### (B) CONCERNING THE TRUNK.

## Art. 180.—*On Pleuritic Effusions and Thoracentesis.**

By Professor Dupré, of Montpellier.

(*Gazette Hebdomadaire*, No. 14, 1869.)

The author in this paper deals with the primary idiopathic collections of fluid, which he calls *sero-plastic* or *rheumatic* effusions. It is in these cases that thoracentesis is a truly sovereign remedy, as the following statistics of seventy-six cases operated on by Professor Dupré prove:—

Cases operated on in the second week, 47. Cures, 46; death, 1.
Cases operated on in the first month, 19. Cures, 5; deaths, 4.
Cases operated on in the second month, 8. Cures, 5; deaths, 3.
Case operated on in the fifth month, 1. Cured.
Case operated on in the seventeenth month, 1. Cured.

With regard to the pathogenic diagnosis, M. Dupré divides pleuritic effusions into three principal orders:—

1. The essentially *inflammatory* effusions which accompany or succeed

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* Communicated to the Académie de Médecine.

to true pleuritic attacks. These are rapidly absorbed without the intervention of thoracentesis.

2. The serous accumulations, true *hydropsies*, which are formed in the pleuræ in consequence of organic lesions or general morbid changes. The predominant danger of the lesions which have caused these effusions, the nature of the effused serosity, and its incessant tendency to increase in quantity, demonstrate fully the inutility of puncture.

3. Finally, those which the author styles *rheumatic* or *sero-plastic* effusions, the commencement of which is often marked by a slight rigor and a painful sensation at some one part of the thorax. Sometimes they follow directly articular pains or sciatic neuralgiæ. In some circumstances the initial thoracic pain is very acute, and causes great impediment to respiration; but it is superficial, extended, not circumscribed, mobile, and increased by movement, apyretic or with a fever quite out of proportion. Who does not recognise here veritable pleurodynia, true rheumatism of the pectoral muscles? But it happens that during the course of this painful condition one discovers an effusion into one of the pleural cavities, obscure at first, and then gradually becoming superabundant, so as to form in time a considerable liquid accumulation. This effusion accumulates without pain, without oppression, without cough. There is no subjective dyspnœa, no fever, and the appetite and capacity for sleep are preserved. Still, there is a trace of lividity in the features, an abnormal effort of contraction in certain muscles of the face or neck, and a sudden interruption of the great respiratory movements in the midst of their evolution, the decubitus is unilateral, there is interruption, irregularity, and dicrotism of the pulse, all of which signs indicate the existence of the disease before its physical symptoms have been openly demonstrated. This affection has been described by M. Pidoux under the name of latent pleurisy.

Against such effusions as these medical treatment acts slowly, and is uncertain in its results, and in some cases powerless. The slowness of its action permits the formation of irremediable lesions or the occurrence of lamentable results, and even sudden, instantaneous, and unforeseen death.

Professor Dupré strives to demonstrate that puncturing the pleura and evacuating the effusion fluid may prevent these bad results, and that this small operation adds absolutely nothing to the gravity of the situation.

Except with special indications to the contrary, the author perforates the sixth intercostal space on the right side and the seventh on the left, in the course of a line drawn perpendicularly from the centre of the axillary fold to the hypochondrium.

M. Dupré terminates his article with the following conclusions:—

1. There exist idiopathic pleural effusions, of which apyrexia, latency, and progression are the habitual characteristics.

2. They are to be distinguished from inflammatory effusions and from hydropsies by the whole of their clinical characteristics, by which they are brought near to rheumatic affections.

3. The presence of plastic serosity in the pleura and its prolonged existence there constitute a real danger. It is necessary therefore to evacuate the fluid as speedily as possible.

4. Thoracentesis practised according to the prescribed rules is absolutely harmless. Its immediate action and its direct results do not expose the patient to any danger.

5. It is necessary to perform the operation immediately in cases where the effusion has lasted longer than fifteen days, particularly when it is on the left side and occupies the whole pleural cavity.

6. In those cases where it is formed under the eyes of the observer recourse should not be had to thoracentesis until after the tenth day, and when at least two-thirds of the pleural cavity have been occupied by fluid.

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## Art. 181.—*Aortic Aneurism: probable Cause of its great prevalence in the Army compared with the Navy and Male Population, and consequent Remedy.*

By A. B. R. Myers, Assistant-Surgeon, Coldstream Guards.

(*The Lancet*, February 20.)

Mechanical obstruction to the circulation is, in the author's opinion, the chief cause of this disease in the army, and is produced as follows:—

When the peasant leaves the plough and becomes a soldier, two great changes at least are gradually effected in him—viz., his limbs from being stiff are rendered supple, and his chest, which *had* nothing to restrict its movements, becomes a partially fixed, though to some an imposing-looking structure. By some experiments made with the spirometer, the author finds that men standing at "attention" with their tunics buttoned up, without their arms and accoutrements, suffer a loss of about twenty cubic inches on forcible expiration, the upper thorax remaining expanded, and consequently also the upper lobes of the lungs; whilst the diaphragm and lower lobes are brought into special requisition. Such a condition must surely impede the passage of the blood from the main trunk to its thoracic branches. Mr. Myers considers this prolonged over-distension of the air-cells of the upper lobes may weaken their elasticity, and tend to the production of tubercular disease; and this, if he mistakes not, is the opinion of Dr. Quain.

The next and main cause of mechanical obstruction is due, Mr. Myers thinks, to the manner in which the tunic is fitted round the neck; neatness being the great point studied, although, no doubt, it is tried to combine this with some comfort. Such, however, is hardly possible according to the present pattern; for the collar, fastened by one large hook, must be made to fit tightly, so that the cloth shall sit smoothly beyond it, and the amount of freedom is tested when the soldier is standing still.

How easily this will explain the frequency of faintness in the ranks after a little extra exertion. In illustration of this, Mr. Myers once measured the neck and tunic-collar with fastening of a private whilst standing at ease a few hours after he had fainted in the ranks. The former measured $15\frac{3}{4}$ inches, and the latter 16 inches, without making any allowance for the stock and the inward curvature of the hook,

which comes always a little above the upper margin of the sternum. This constriction round the neck, though possibly not felt when the soldier is at rest, must be a great check to the circulation when he is using any exertion; and with the increased action of the heart at the time, the aorta must become dilated beyond its normal limits, its elastic fibres weakened, if not ruptured, and aneurism be the not improbable result.

Inspector-General Lawson draws attention to the special prevalence of disease of the heart and great bloodvessels amongst the troops at the Cape; but he does not offer any explanation of it. Mr. Myers is informed, however, that they have to endure very great fatigue in long marches over hilly districts. Mr Lawson points out the great increase in the deaths from the above throughout the army of late years.

Mr. Myers would suggest that this might be attributable to the great alteration in the collar in 1855. The old high stiff collar, with its three hooks and stock, upon which the point of the chin rested as in a vice, though most uncomfortable, fitted of necessity loosely round the neck, and, in fact, was only an exaggeration of the present comfortable collar of the Prussian army; and old soldiers whom the author has asked state that the pressure round the lower part of the neck was not nearly so great in those days as it is now.

In 1856, the 52nd Regiment, stationed in India, received the new tunic as at present worn; but the colonel, considering that the pattern of collar was objectionable, had it much enlarged at his own expense, and made to fasten with three hooks. This was worn in the regiment for eight years—namely, until its return to England; and it was universally liked by the men.

On examining the annual statistics and manuscript reports of the regiment, Mr. Myers finds no instance of invaliding or death from aneurism throughout that period, the average annual strength having been 839.

With these facts Mr. Myers feels convinced that the amount of aortic aneurism in the army may be much diminished by the tunic being fitted more loosely round the neck and upper portion of the chest; nor can he see the propriety of making any portion of the soldier's dress so tight as to place him at a great disadvantage in regard to health, comfort, and usefulness when actively employed, and especially now that the capabilities of each individual are being so much more studied than formerly.

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## Art. 182.—*On Resection of the Ribs.*

### By M. Demarquay.

(*Gazette Médicale de Paris,* February 5, 1869.)

M. Demarquay thus describes the operation for removing a rib:—

"The most simple proceeding consists in making an incision parallel to the rib or costal cartilage which the surgeon intends to remove. A perpendicular incision is then carried through each extremity

of the first. These two terminal incisions should be increased in extent if it be proposed to remove more than one rib. The skin and subjacent tissues being incised, that part of the rib which the surgeon wishes to remove must be exposed. This is then isolated at one of its extremities from the pleura and periosteum. If the isolation of this portion of the bone can be readily performed, it may at once be cut through with resection pliers; if the passage of the cutting pliers be attended with difficulty, the surgeon may slip under the rib a large grooved sound, and afterwards along the groove of this a chain saw; during the use of the saw the sound should be allowed to remain, or be replaced by a spatula, in order to prevent laceration of the subjacent pleura. This having been done, the diseased bone is divided at the other extremity in a similar manner. The surgeon has then to deal with a floating portion of rib attached only at its deep surface: this must be carefully detached, leaving as much as possible of the periosteum. If several ribs require resection, it will be necessary to make the first incision parallel to two ribs and extending along the middle of the corresponding intercostal space; the two incisions made perpendicular to this should be more extensive. Immediately after the operation the vessels are to be tied, and a very simple dressing to be placed over the applied flaps. If the surgeon has had the misfortune to open the chest, it will be necessary to oppose as much as possible the introduction of air; in the dressing, the two skin flaps when brought together should be covered by bands of plaster, which are then covered by lint saturated with collodion, in order to close at once the chest. If this result can be attained, it is very probable that the air already taken into the chest will be promptly absorbed without causing any serious accidents. In fact, I have been able to produce pneumothorax in animals by carefully introducing air into the pleural cavities by the subcutaneous method without any subsequent inflammatory affection resulting, as the injected air was absorbed. But if, in spite of these precautions, empyema should supervene, it will be necessary to make a free opening, in order to give exit to the pus and empty the cavity."

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## Art. 183.—*Treatment of Lateral Curvature of the Spine.*

By Bernard E. Brodhurst, F.R.C.S., Lecturer on Orthopædic Surgery at the St. George's Hospital.

(*The Lancet*, May 29.)

*The treatment of lateral curvature*, the author writes, can only be undertaken with advantage when the cause of the curvature is understood, and further, when the order in which the various curves have been formed is understood.

It must be obvious to all who reflect on the subject that it is useless to endeavour to remove a spinal curve whilst the cause of curvature yet remains; for even should the curve be removed, it will recur so soon as the means which were adopted to remove it are discontinued, and the same cause will immediately again distort the spinal column in the same manner as before. Thus, let us, for instance, suppose that some affection

of the lower limbs has occasioned obliquity of the pelvis, a primary lumbar curve and a compensating dorsal curve. The treatment which was formerly adopted was, without reference to the cause of curvature, to make pressure on the convexity of the dorsal curve. This mode of treatment was not only useless, but positively injurious: it increased the lumbar curve, and flattened still more the flattened ribs.

The course of treatment which should be adopted is, in the first instance, to remove the cause of the obliquity of the pelvis. Whatever this may be—whether it be some affection of the foot, knee, or hip—it should be treated and removed, if not before, at least at the same time as the lumbar curve is being treated. Again, when the dorsal is the primary curve, it may be treated by means of a portable instrument, while the lumbar curve is supported by another portion of the same instrument In this form of curvature, muscular exercises are useful to develope the muscles on the concave side of the curve.

The treatment of spinal curvature should be undertaken so soon as the slightest distortion is perceived. It is difficult to remove a spinal curve at any time; especially it becomes difficult when the disposition to curvature is inherited, and it can only be removed when mechanical means are rightly directed to this end. It was with good reason that Sir Benjamin Brodie said: "The treatment of the disease cannot be begun too soon after the first signs of spinal curvature are perceptible."*

A slight curvature of the spine is by some considered to be a matter of such trivial importance as to be unworthy of attention. It is a very serious error to offer such advice, however, and in later years it must occasion great distress. However trivial spinal curvature may appear in the commencement, its course is necessarily to produce increasing deformity, with more or less pain, and impairment of the general health. So little are the laws of equilibrium understood, that it is imagined by some that a wry-neck, or a "growing out" shoulder, or an oblique pelvis is an affair of small importance, and that distortion will probably not increase beyond that which is at the time observed. Some even are bold enough to imagine that a child will "grow out" of these distortions. These are delusions which observation quickly dispels. When curvature of the spine, from whatever cause, has commenced, it must go on increasing until, by the formation of compensating curves, the equilibrium of the body is restored.

Having explained how pathological spinal curves are formed, and how they are compensated, so that the equilibrium of the body may be restored, the author proceeds to consider the application of mechanical means to the removal of spinal curves.

So long as a spinal curve is incipient, it may not be necessary to have recourse to mechanical support to the spine itself; but it may be sufficient to remove the exciting cause of distortion, and to develope the muscular system by means of well-directed exercises. When, however, these measures are found insufficient, support should be given to the spine itself without more delay.

If it be a fact that one curve is first formed, and that others are formed as compensatory of this primary curve—and no one can doubt

* Lectures on Distortion of the Spine not connected with Caries.

it who has watched these cases attentively—then it should follow that treatment must in the first instance be directed especially to the removal of this primary curve; for to remove a secondary curve without giving efficient support to the primary curve is the most certain mode that could be devised of increasing the original curve. Having determined, then, which is the primary curve, force should be applied (not on the greatest convexity of the dorsal curve, to flatten still more the ribs and render the sternum prominent) in that direction which shall tend to restore the position of the ribs, and also to restore the vertebræ, which have undergone some rotation. This is most effectively done by applying the force to be used to the lower arc of the curve, both of the primary and of the secondary curve, when the curves are formed from below upwards; and when they are formed from above downwards the lower arc of the dorsal curve should be supported, and the upper arc of the lumbar curve. When the combined forces of a well-adapted instrument are made to act in the directions now indicated—namely, obliquely towards the centre, they tend to unbend the primary curve. The movement which is thus commenced in the primary curve is often greatly assisted by muscular action on the compensating curve. In this manner the several curves are at the same time acted on and unfolded.

The time which is necessary for the completion of this unfolding process depends on the degree of fixity of the curve, and on the ability to bear the treatment. Some never shrink from a well-fitting instrument, while others cannot bear effective pressure. Among the latter are those who suffer from rickets. Again, some cases are necessarily incurable, and they must be recognised from the beginning; such as those which are produced by inflammation and its results within the thorax, from congenital malformation, and also where anchylosis has taken place, whether in angular or in lateral curvature; for in the former a slight lateral curve not unfrequently forms above and below an irregular union, and in the latter, bands or bosses of bony matter are thrown out, uniting two or more vertebræ.

It is not necessary in this place to say that it is of the utmost importance to attend to the general health in the class of cases now under consideration, for constitutional treatment is especially needed where there is debility, and debility and rickets are the principal predisposing causes of spinal curvature. At the same time, therefore, that mechanical treatment is undertaken in order to remove deformity, constitutional treatment should, so far as is possible, be made conducive to the restoration of health.

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## Art. 184.—*Spina Bifida; Injection of Iodine; Recovery.*

(*The Lancet*, May 1.)

The rule is that these cases die. M. Roux, of Meximieux (France), has recently published in the *Bulletin de Thérapeutique* the case of a girl, six weeks old, presenting this deformity The tumour hung from the extremity of the sacrum to the lower third of both thighs. The author first made an exploratory puncture, and removed about an ounce of a limpid fluid. He tried then the following plan:—An assistant was

desired to hold the tumour in such a manner as to occlude the opening into the spinal canal; the operator then injected an ounce of the following solution: Distilled water, eleven drachms; tincture of iodine, three drachms; and iodide of potassium, 180 grains. The liquid was left five minutes in the sac, the latter being kneaded with the hand of the operator. The solution was then withdrawn to the last drop by the exhausting agency of the syringe. This proceeding succeeded so well, that in a fortnight there was only a hard nucleus left, no larger than a walnut. M. Roux attributes his success to the occlusion of the canal, and to the withdrawal of the very last drop of the injected fluid.

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## Art. 185.—*On Kelotomy without Reduction.*

### By Dr. Marc Girard, Paris, 1868.

(*Gazette Hebdomadaire*, No. 9, 1869.)

There are certain cases in which the reduction of a strangulated hernia is not practised after opening the sac and dividing the stricture; as when this proceeding cannot be performed and when the morbid changes of the intestine are such as to threaten its rupture into the abdominal cavity. M. Marc Girard raises to the height of a general proceeding in kelotomy this practice of non-reduction of the intestine; according to his views non-reduction assures and hastens the cessation of the symptoms of strangulation, and constitutes a prophylactic measure of great value against peritonitis following operations for strangulated hernia. Many arguments in favour of this practice are given by the author, and also the reports of twenty-five cases of strangulated hernia in which it was resorted to. In these cases there were twenty recoveries and five deaths. M. Girard, in discussing the conditions of success and failure, finds in these facts the demonstration that a pure and simple abandonment of the loop of intestine in the wound is attended with no danger; it is the reduced intestine that sets up peritonitis; consequently, by not practising reduction, peritonitis will be avoided.

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## Art. 186.—*Purgatives in Strangulated Femoral Hernia.*

### By William Stokes, M.D.

(*Medical Press and Circular*, March 17.)

At a meeting of the Surgical Society of Ireland, held Feb. 19th, Dr. Stokes, jun., brought under the notice of the Society the following case of strangulated femoral hernia, which was recently operated on by him in the Richmond Hospital, not only on account of its presenting some features of peculiar interest, but also because he was most anxious to obtain the opinion of members of the Society who have had practical experience in these cases, in reference to an important point in connexion with their treatment after operation. "The case," Dr. Stokes states, "was one of a young man, aged twenty-four, by occupation a clerk, who was admitted into the Richmond Hospital on the 21st of last

month, having been recommended to me by Dr. Gogarty. The patient stated that he had been ruptured for five years, but up to last August he never had suffered any inconvenience, having always been able to reduce it without difficulty. On the 23rd of last August, while straining at the water-closet, the hernia came down and became strangulated, and shortly after he was sent to the Richmond Hospital. The patient having been brought fully under the influence of chloroform, I succeeded in reducing the hernia without much difficulty. After this the patient wore a well fitting truss, and suffered no inconvenience until the morning of the 21st of last month, when during a violent fit of coughing the hernia came down and again became strangulated.

"I may mention in passing that, after reducing the hernia on the first occasion, I felt immediately after a distinct fulness in its site, which I rightly considered to be the sac which I had not succeeded in returning.

"When admitted into hospital for the second time he had all the usual signs and symptoms of strangulation, vomiting, hiccough, eructations, pain in groin, tenderness in abdomen, a small and slow pulse, and great anxiety and depression. As I had formerly succeeded in reducing the hernia, and as the strangulation was only of six hours' duration, I anticipated little difficulty in reducing it by the taxis. My anticipations, however, were not to be realized. Taxis was tried with great care, but without producing the slightest effect on the tumour. Directions were then given to put him into a warm bath, to get a full opiate, and an hour subsequently to get a tobacco enema and tobacco stupe over the abdomen. This treatment had the effect of relieving the pain to a great extent, but had none whatever in diminishing the tension of the tumour. I may mention also that the taxis was tried while the patient was in the hot bath by my clinical clerk, but without success. No effort therefore was spared to save the patient from the risk of the operation of herniotomy. At five o'clock in the afternoon I saw the patient again, and as the hernial tumour was as tense as before, and the pain recurred and all the other symptoms had increased in intensity, I operated, and in doing so had the advantage of the able assistance of our president, who kindly came to see the case. As the strangulation was so recent, I determined, if possible, to perform the extraperitoneal operation, though I had some doubts as to my being able to do so from the fact that in this case the hernia was strangulated in an old previously unreduced hernial sac. This constituted the chief peculiarity of this case. The difficulty in reducing the hernia without opening the sac in this case arose from the existence of extensive adhesions between the thickened unreduced hernial sac and the edges of the femoral ring. This I found when I arrived at the sac; I passed my finger all round its neck, and nowhere could I feel the edge of the ring. I then forcibly introduced a broad-bladed director between the sac and the ring at the upper and inner margin of this ring into the abdomen, breaking down the adhesions that had formed in this situation. The stricture was then divided in the ordinary way, and the intestine, but not the sac, returned. The operation being completed, he got a powerful anodyne draught, after which he fell asleep. The following day he got another opiate. The third day, all pain and tenderness having subsided, and the patient feeling inclined to sleep, opium was not considered any longer necessary. I need not

enter into the particulars of the daily progress of this case. But this fact is worth mentioning, that there was no motion from the bowels until the seventh day after the operation, which motion was induced, not by the administration of any purgative, but by a simple warm water enema. After this the patient had one motion from the bowels regularly every day. I may mention also that the wound healed by the first intention without the adoption of the so-called antiseptic treatment, and the patient was enabled to leave the hospital on the twelfth day after the operation.

"Looking at the result obtained in this case, as well as in other cases of strangulated hernia which I operated on during the past years, and in which during the after-treatment no purgatives were administered, makes me very desirous of hearing the opinions of some of the members of the Society as to the value of the administration of purgatives in the after-treatment of cases of strangulated hernia. I should be sorry to urge such a revolutionary step in surgical practice as the abandonment of purgatives in these cases, but I think that their utility in the great majority of them may be questioned. In Paris, for example, where the mortality after herniotomy is, I may say, quite unexampled, the routine practice is shortly after the operation to administer an active cathartic draught. I remember during my pupilage having seen several cases in which calomel purgatives were administered after operation. The question, however, which I consider to be of such eminently practical importance is whether, in a local enteritis, which must, to a greater or less extent, be present in all cases of strangulated hernia, we should endeavour to excite by artificial means peristaltic action at an early period, or whether we should abandon such attempts altogether, or at all events defer them until there is reasonable probability of all congestion and inflammation having entirely subsided. In other words, we should determine whether the principles which guide us in the treatment of cases of ulcerative enteritis with perforation, such as we have occasionally opportunity of observing in typhoid fever, should not also be adopted in the treatment of strangulated hernia after operation."

Professor Hargrave observed that the point referred to by Mr. Stokes was important, but not new. In his early experience it was always the practice to give purgatives if the stomach would bear them. This, however, failed, and as they obtained more pathological knowledge they saw why it had not been successful. They were endeavouring by purgatives to move a paralysed muscle, and thereby doing more injury. Now, opium was given to afford the muscles time to recover, after which the bowels would quietly take on their natural action. He was of opinion that crude opium would be found more powerful as an anodyne, and would remain more quietly on the stomach than powdered opium. Again, if it was desirable to move the bowels, enemata were preferable to purgatives.

Mr. Wharton bore testimony in favour of giving rest to the abdominal contents in cases of strangulated hernia. This was in fact the key to success in such operations. In a case under his care constipation continued for a fortnight, and with the best results.

Mr. Collis observed that in the Meath Hospital it was the rule not to give purgatives except there was a special reason for it.

Mr. Croly said a similar line of treatment was adopted in the City of Dublin Hospital. He had operated in eight or nine cases of strangulated femoral hernia, and in one case last session, in which he was assisted by Mr. Stokes, the bowels were not moved for seven or eight days after the operation. The patient complained of pain, and he put off using purgatives, believing them to be injurious. In eight or nine days after the operation a fæcal fistula formed, and he was satisfied if any purgative had been given the contents of the bowel would have become extravasated into the peritoneal cavity. In his last hernial operation the patient had a motion before he left the room after the reduction of the hernia.

Dr. Hewitt observed that Dr. Graves recommended the use of opium to allay peristaltic action. The great object was to keep the intestine at rest and give it time to recover. It was important that the hard fæces should not be brought into contact with the softened wall of the bowel. The use of enemata might also be injurious by exciting peristaltic action in the inflamed intestines. Dr. Stokes' father many years ago pointed out the principle which should guide the practitioner in such cases where there was a tendency to rupture, and showed the advantages of large doses of opium. He (Dr. Hewitt) had given as much as twenty-four grains of opium in twenty-four hours without producing narcotism.

Dr. Darby said that in cases of lead colic, opium was one of the most valuable remedies. This had been his experience, and Dr. Martin, of Portlaw, who had many cases of the kind to deal with, found it the same. There was one point with regard to the operation which Dr. Stokes had not alluded to, nor perhaps had it ever been brought before the Society. Some years ago he saw the case of a young woman who had been operated on for strangulated femoral hernia. She told him she heard the dressers in the hospital say she had been operated on without the sac being opened. She recovered; but she came into the hospital again with a tumour as big as his two fists, and the opening into the abdomen was so free that he could put his fingers up and follow the tumour into the abdomen. She was disabled for life. No truss was of any use to her. He drew the inference that in that operation the tendon had been too freely divided; and shortly afterwards he had an opportunity of operating in a case of femoral hernia. He opened the sac, and—(here Dr. Darby was told by the president that he was not at liberty to depart from the discussion of the point raised by Mr. Stokes.)

Dr. H. Kennedy said he saw a case in which no inflammation was found in the intestine after an operation for strangulated hernia. The intestine was found to be congested, but without any trace of inflammation. He thought it might be judicious where the intestine was paralysed to try the effect of a weak stream of electricity. He believed with Dr. Hargrave that solid opium was frequently a better preparation than others. He preferred using the watery extract of the drug.

Mr. Richardson said that when he attended Dr. Hutton's clinique in the Richmond Hospital, he frequently spoke against the premature use of purgatives after the operation.

Mr. Stokes, in reply, said that in the last case where he saw Mr.

Hutton operate he heard him order ten grains of calomel to be placed on the patient's tongue. He thought it made little matter what preparation of opium was used, provided the desired effect was produced. A solution of muriate of morphia—about thirty or thirty-five drops of the Pharmacopœial preparation—was that which he preferred. He thought seven days a long time for a case to go on without a motion from the bowels, and therefore he ordered a warm-water enema; but Dr. Wharton said he had known constipation to last for a fortnight without injurious consequences, and that should render them more patient in looking for a motion from the bowels in these cases. Mr. Collis had stated the rule of practice in the Meath Hospital, namely, not to give purgatives; but it was not the invariable rule, for he recollected a case in the practice of Mr. Porter, where purgatives were given a short time after the operation—if he mistook not, on the following day. Dr. Darby's observations were most interesting, and he hoped he would draw attention on some future occasion to the modification of the operation. Mr. Croly made reference to an interesting case which he saw him operate on, and which was brought to a most successful conclusion, following the mode of treatment he had found so useful, namely, in giving nothing in the after-treatment but large doses of opium.

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## Art. 187.—*A Case of Lumbar Hernia.**

### By M. Hardy.

(*Archives Générales de Médecine.*)

M. Hardy reported a case of lumbar hernia which occurred in a female thirty years of age, who was admitted into the Hôpital Saint Louis to be treated for syphilitic paralysis. This hernia was produced after violent efforts made by the patient in order to overcome an obstinate constipation which was associated with paraplegia.

The tumour, eight centimetres in diameter, was situated in the lumbar region, above the superior border of the os ilium, and about three fingers' breadth from the anterior superior iliac spine. It was subcutaneous, furnished with a broad base, hemispherical, and about the size of the fist. It was soft, painless, covered by skin of a normal colour, without fluctuation, yielding on manual pressure, very sonorous on percussion, readily reducible with a characteristic gurgling sound, and returned on coughing or other efforts. The tumour could be readily and completely reduced, but reappeared even during rest in bed by an effort of coughing, which communicated an impulse to the hand placed over the tumour.

After the reduction of the tumour a triangular gap could be made out, the base of which was formed by the superior border, hollowed at this point, of the os ilium, and the remaining two sides by borders, both of which—but the posterior one particularly—were thick and rigid.

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* Communicated to the Académie de Médecine.

The patient could digest her food well, and complained merely of slight colic. There was no other hernia, but a similar triangular interval could be made out on the opposite side.

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## Art. 188.—*Note on the Cure of Acute Orchitis in Twenty-Four Hours.*

By Furneaux Jordan, F.R.C.S., Surgeon to the Queen's Hospital, Professor of Surgery at Queen's College.

(*British Medical Journal*, February 16.)

The following case is related by Mr. Jordan:—A man, aged thirty, had intense pain, intolerable tenderness, and great swelling and induration, in both testicles, and could not stand upright. The scrotum was covered with a solution of nitrate of silver (two drachms to an ounce); a stripe of vesication was established over the upper halves of both femoral arteries by means of linimentum iodi; and the testicles supported with cotton-wool. He was well in twenty-four hours.

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## Art. 189.—*On Nephrotomy as a means of Treating Renal Calculus.**

By Thomas Smith, F.R.C.S., Assistant-Surgeon to St. Bartholomew's Hospital, and Surgeon to the Hospital for Sick Children.

(*The Lancet*, May 15.)

The object of this paper is to introduce to the notice of the Society, for discussion and consideration, a method of treating stones in the kidney and ureter, that the author deems worthy of more thoughtful deliberation than it has hitherto received. The operation of nephrotomy, though mentioned and recommended, with certain reservations, by Hippocrates, was by him and his followers restricted to cases in which there was an external swelling, cases in which, as they expressed it, "Nature showed the way." Even in this limited application, it is doubtful if the operation has ever been performed, except for the relief of renal abscess. So far as the author can ascertain, nephrotomy has been but once employed for the extraction of calculi from the kidney or ureter. This case, which occurred in the seventeenth century, is detailed in this paper. The operation was performed on the person of Mr. Hobson, the British Consul at Venice, from whose kidney an Italian surgeon successfully removed two or three small stones, by an operation performed in the lumbar region. Mr. Hobson subsequently visited England, and was seen and examined in London by competent medical men, who have given an account of the case in the *Philosophical*

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* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, April 27.

*Transactions.* In discussing the subject of the paper, the author lays down as most desirable,—1st, that we should be able clearly to recognise the existence of stone in the kidney; and 2ndly, that an operation should be devised for the removal of the stone which should not put the patient's life in a danger disproportionate to the gravity of his disease and his desire for relief. A method of examining the kidney by palpation is described, by which the author has been able in one case to recognise the existence of tubercular deposits in the infundibulum of the ureter. Should it be impossible from any circumstance to employ this method of examination, so as to recognise a renal calculus, the author is of opinion that in some cases the subjective symptoms alone are so pathognomonic, that the diagnosis might be considered sufficiently clear to proceed to operation; since by the plan of operation recommended in the paper, the kidney could be made the subject of tactile examination without serious danger to life. A plan of operation is detailed by which the pelvis of the kidney can be reached so as to examine it with the forefinger without injury to any important structures.

Whether the performance of this operation would enable a stone to be removed without fatal damage to the renal tissue would (in the author's opinion) depend largely upon the shape, size, connexions of the stone or stones, and the physical conformation of the patient; and while he confesses that there are cases of long-standing branched calculi that could not be removed without inflicting unjustifiable injury to the kidney or the surroundings, yet he believes that he has met with renal calculi that could have been removed without any such violence. If the conditions affecting the removal of the calculus were unfavourable, he believes that the operation would reveal these conditions without injury to the renal tissue, and could then be abandoned without having placed the patient's life in serious danger.

The author thinks that the possibility of removing a stone from the kidney by nephrotomy should first be decided by operation on the dead body of one who has died with a stone in the kidney. He hopes that this experience may shortly be forthcoming, either by others performing the operation themselves on patients who may have died with the disease, or by the kindness of some surgeon giving the author an opportunity of performing the operation under similar circumstances; and this is one of the chief reasons why the author has made this communication to the Society.

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## Art. 190.—*The Painless Removal of Hæmorrhoids.*

By Holmes Coote, F.R.C.S., Surgeon to St. Bartholomew's Hospital.

(*British Medical Journal*, February 13.)

By the use of the ether spray Mr. Coote prevents all pain during the operation. In dealing with a strictly external pile, he says that the removal may be at once effected, painlessly and safely, by first freezing the part with ether spray, and next by cutting it away with the scissors. If there is any hæmorrhage, it can be easily checked by ligature or

needle. Internal piles, which have no ligature, are thus dealt with:—"The patient, on hands and knees, strains and protrudes the affected part. The enlarged veins are next touched carefully with nitric acid, and the part is returned, an opiate suppository being then introduced." Hæmorrhoidal swellings, which are partly internal and partly external, and which consist of large venous trunks—which it would be dangerous to divide without precautions, and which could not be well removed by acid or by cautery—are best and safest treated by Mr. Henry Smith's clamp and hot iron.

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## Art. 191.—*Obstinate Cases of Acute and Chronic Gonorrhœa, successfully Treated by Injections of Glycerine of Tannin.*

Under the care of Mr. J. D. Hill, of the Royal Free Hospital.

(*The Lancet*, March 20.)

The treatment which Mr. Hill says he has extensively employed in hospital and private practice was, he believes, first introduced by Dr. Ringer, of University College, who has kindly favoured him with the following remarks:—"For some time past I have been making observations with an injection of glycerine of tannin in chronic gonorrhœa and gleets, and have found it of great use, especially in gleets, which I believe may be removed more quickly with this injection than perhaps any other. In the acute stage of the disease a little care is necessary, or great pain is caused. This may be prevented by diluting the glycerine of tannin with equal parts of mucilage. Another point to attend to is that the injection should not be injected too far, or it causes a great and frequent desire to make water."

Mr. Hill is therefore enabled to support the experience of Dr. Ringer, not only by recent cases, but also by observations on the treatment of gonorrhœa by tannin and mucilage injections extending over some years. These injections he first used in the proportion of ten grains to the ounce, but latterly, as suggested by Dr. Ringer, he found the glycerine of tannin more serviceable, slightly modified, however, as to the diluting agent.

The following is the method which Mr. Hill recommends to all patients using injections:—

"The bladder having been first emptied, the bottle containing the lotion is to be well shaken, and about two drachms of it briskly poured into a saucer. This must be quickly drawn into a glass syringe with a bore in the nozzle equal to a No. 6 catheter. The penis is then to be held in the left hand, with the thumb and little finger respectively placed upon the superior and inferior portions of that organ close to the symphysis pubis, and the fore and middle fingers resting in like manner upon the superior and inferior surfaces of the glans close to the meatus urinarius. The syringe, with the piston withdrawn, is now to be taken up with the right hand, and the nozzle as far as its shoulder carefully passed into the urethra. Previous to injecting, the thumb and little finger of the left hand must compress the root of the penis, in order that the urethra be closed against the passage of any fluid

beyond this point. When a sense of tension is felt, the syringe may be withdrawn; but the front fingers must previously be so applied as to compress the glans, and thus prevent any escape of fluid from the meatus. Next, with the thumb and forefinger of the right hand the fluid in the urethra is to be set in motion, and so kept for four or five minutes. This will be attended with a gurgling noise from the mixture of air and fluid. Thus, when the injection has so insinuated itself within the folds and lacunæ of the urethra as to saturate the openings of the follicles and mucous glands, and permeate the whole of the affected structure, it is allowed to escape.

It is conceived that by these means the bladder is protected on the one hand, and on the other there is a certainty of the fluid being applied to the affected surface of the urethra.

Mr. Hill has notes of six cases in which the glycerine of tannin would appear to have been of great service. In several, injections of zinc, lead, and alum had been employed without much benefit. The formula employed was the following:—Glycerine of tannin, three ounces; olive oil and mucilage, of each one ounce.

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## Art. 192.—*Fission and Extroversion of the Bladder and Epispadias, with the Results of Eight Cases treated by Plastic Operations.**

By John Wood, F.R.C.S., Examiner in Anatomy to the University of London, Assistant-Surgeon to King's College Hospital.

(*The Lancet*, February 20.)

The author commenced by stating that the frequency of this deplorable deformity was greater than was generally supposed. He had himself seen upwards of twenty cases. In its more usual form it was perfectly compatible with viability, and even longevity. One case is recorded by Flajani, of a person aged seventy, and by Quatrefages of two, aged forty-six and forty-nine respectively. It is much less common in the female than in the male; the author had seen two cases in the female, and operated on one. Cases are recorded by Huxham, Oliver, Bonnett, Thiebault, and Ayres, of delivery of a child at full time in females suffering under the deformity.

In both sexes the ossa pubis are widely separated, and the symphysial surfaces can be felt projecting under the integuments on each side of the genital organs. In both, the hinder wall of the bladder is seen as a red, vascular, projecting tumour, often ulcerated, and discharging muco-purulent fluid and blood, and surrounded by a cicatrix, which above is blended with, and obscures the umbilical mark. In the male, the penis is usually completely epispadiac, with the urethra open along its entire length. The corpora cavernosa are stunted, and

* Read at a meeting of the Royal Medical and Chirurgical Society, held Tuesday, February 9.

fail to cover the urethra above, and they are connected below by an imperfect corpus spongiosum, forming the lower half of the urethra. The glans penis is grooved above by the urethral gutter, but perfect underneath, and is provided with a frænum, and an abundant but split prepuce. The stunted penis is placed flat against the lower part of the bladder, usually covering by its root the papillary orifices of the ureters. The scrotum is perfect, and contains testes; and often a congenital oblique hernia, or a small ventral hernia, is also present. In the female, the clitoris is split, and the anterior commissure of the labia minora wanting, exposing more completely than in the male the orifices of the ureters, and laying open the urethra. The normal os uteri can be seen in the vaginal groove.

The author then reviewed the theories of the cause of the deformity,—viz., that of Duncan and Bonn, who attributed it to the bursting of the fœtal bladder from over-accumulation of allantoic fluid; that of Velpeau and Phillips, who considered it to be caused by ulceration of the hypogastric region between the second and third months of intra-uterine life; and that of Vrolik and other teratologists, who explained it by an arrest of development similar to those producing harelip, fissio thoracis, and ectopia cordis. He considered that the latter view was undoubtedly the correct one, but was of the opinion that the arrest of development was itself owing to a process of morbid change resulting in adhesion of the front part of the allantoic mucous and vascular layers to the membranes of the ovum at the site of the future placenta, at about the end of the first month. He gave drawings of the fœtal allantoic formation at this period, and described varieties of the deformity illustrative of the period and extent of the arrest of development,—from simple fissure of the urethra (epispadias), and of the urachus and abdominal wall simply (ectopia vesicæ), on the one hand, representing a later arrest of development; to those extreme cases presenting a common cloacal opening of the genito-urinary organs and rectum, with imperforate anus, on the other, which are the results of a morbid change and consequent arrest of development at a still earlier period than the cases which form the especial subject of the paper.

Mr. Wood next alluded to the efforts made by surgeons at various times—viz, Dieffenbach, Langenbeck, and others in this country—to relieve by plastic operations this frightful deformity, in all instances with partial or complete failure. He briefly described Professor Pancoast's case operated on in Philadelphia, and Dr. Ayres' in New York, attributing to the former the first adoption of the idea of turning flaps from the sides of the abdominal wall with the skin surface towards the exposed mucous membrane. Dr. Ayres' case was that of a female who had borne a full-grown child four months before, and was entirely successful after two operations. He also alluded to the operations performed by Mr. Holmes in this country. He then gave a detailed account of eight cases in which he had himself operated between the years 1863 and 1869. In seven of these he had been successful in providing a complete covering for the bladder. In the last two he also succeeded in covering the penis with a prepuce, completing the upper wall of the urethra, and forming a fair substitute for the meatus urinarius. In one case (the only female operated upon) an entire failure had

resulted, in consequence of the extreme youth and violent crying of the patient.

Three methods of covering the bladder had been employed. The first was by two lateral flaps taken from the groin, with their bases towards the thigh, scrotum, and penis, and united by sutures in the median line, with their raw surfaces towards and touching the exposed mucous membrane of the bladder. After many operations, necessitated by partial failures of the plan, the bladder was at length completely covered in, with only one opening, placed at the root of the penis. The boy died afterwards of erysipelas of the head and face, and the parts operated on were shown in a preparation, the bladder being opened behind to show the union of the flaps within, and the formation of a pseudo-mucous membrane on the raw surface.

The next method consisted in the employment of one reversed lateral flap, in combination with a smaller reversed umbilical flap, both turned with their skin surfaces towards the bladder, and covered by another larger lateral flap, placed with its raw surface downward upon them. The reversed umbilical flap was adopted to obviate the great difficulty experienced in the earlier cases in closing up a fistulous opening which remained above the bladder. It cannot always be employed with safety, in consequence of the extreme tenuity of the abdominal parietes at this part in some of these cases. It was found better to attempt it at the time of the first operation than by a subsequent one, and to make it large enough to afford a firm hold by primary adhesion to the lateral flaps which cover it.

The third method employed consisted in the formation of a larger umbilical flap, turned with its skin surface upon the bladder, and big enough to cover its exposed mucous membrane as far down as the root of the penis. This was covered by two lateral flaps taken from the groin, with their bases towards the penis, scrotum, and thigh, and united in the median line over the umbilical or reversed one, with their raw surfaces in contact with it. By this means the author succeeded, in five cases, in covering by one operation the entire surface of the bladder.

In this step of the operation the chief features of the author's plan, as most successfully practised, are the use of the broad, reversed umbilical flap, to prevent the upper fistulous openings; and the arrangement of the lateral or groin flaps, with their bases turned towards the scrotum and thigh, so as to receive for their supply of blood the external pudic and superficial epigastric vessels from the common femoral uninjured, and so to prevent sloughing or shrinkage.

In the second step of his operation, as performed in the last two cases—viz., that of providing a preputial covering for the glans penis and an upper wall for the urethra, the author availed himself of the front part of the scrotum and the skin of the lower surface of the penis, which he raised from the deeper parts in the form of a bridge of skin, retained at both ends to its original connexions, and lifted in the middle over and across the penis, like a saddle. This was placed with its raw surface in contact with that of a reversed fold of skin, turned over from the sides of the opening left by the first operation, the whole being held together by a continued wire suture. The sides of the wound in

the scrotum were then brought together vertically over the tunica vaginalis and testicles, the hinder half of the bag of the scrotum being amply sufficient to cover the whole. This part of the operation proved entirely successful in the last two cases, which were the only ones in which the method has been tried.

It was stated by Pancoast that the hairs which afterwards grow on the reversed surface of the flap became gradually shed by the depilatory action of the urine upon them. In the author's two last cases, both adults, this process is certainly going on, but it is still necessary to remove some of the hairs as they grow by the use of a pair of forceps passed into the artificially formed meatus urinarius. This is, however, a process requiring only a little trouble and dexterity on the part of the patient himself, and to be repeated whenever the incrustation of the phosphates upon them causes uneasiness. A very dilute nitric-acid lotion aids in the process of cleansing. In future adult cases, the author proposes to use a depilatory upon the parts previous to operation. As the cicatrices contracted, the orifice of the artificial urethra became more tightened and braced up, and the transplanted dartos could be felt to clasp the finger vigorously when passed into the opening. Already the urine sometimes accumulates in the bladder, when the patient is lying down, in sufficient quantity to be expelled in a stream, on rising, to the distance of a few inches from the penis. In both cases no sinuses now remain. They now wear a silver-plated instrument connected with an india-rubber urinal, made by Mr. Matthews, of Portugal-street. It is closely fitted round the penis, not enclosing the scrotum, thereby removing the pain and annoyance from the sores and tenderness which the trickling urine caused upon the surface of the scrotum. During the night, when the patients lie in the recumbent position, very little urine escapes—not more than can be caught by a sponge placed under the penis; and in the daytime a much smaller and less conspicuous urinal can be worn than that which was necessary before the operation.

The last case operated on by the author—that of a man, aged thirty-five—was exhibited to the Fellows at the meeting. An india-rubber ring can now be placed round the artificial prepuce and the corona glandis, so as to retain the water entirely for a short time. The paper was illustrated by numerous casts, models, and drawings from the several patients in various stages of the operations.

The President, in cordially thanking Mr. Wood for his important contribution, said he had seen many failures, but none to succeed. He had never attempted the operation, not having the courage to face the antecedents of such an operation. Mr. Wood's success was a cause for general rejoicing.

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## Art. 193.—*Catarrhus Vesicæ.*

(*The Lancet*, January 2.)

This disagreeable chronic complaint is often very obstinate; it may therefore just be stated that M. Mallez has found the following solution injected *into the bladder* very efficacious: water, ten ounces; tincture

of iodine, forty-five drops; iodide of potassium, fifteen grains. When the pain is very annoying, add fifteen grains of extract of belladonna to the above. He has also employed carbolic acid, nitrate of silver, and hyposulphite of soda, with advantage.

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## Art. 194.—*Urethrotomy.*

### By Dr. Jüngken.

(*Deutsche Klinik*, No. 51, 1868; and *British Medical Journal*, March 27.)

Dr. Jüngken, in a long contribution on the pathology and treatment of stricture of the male urethra, states, that when the canal is completely closed, recourse should be had to the proceeding of urethrotomy recommended by Syme. This operation the author holds to be one of the most difficult that can be undertaken by the surgeon, as cases often occur in which the operator cannot distinguish the urethra contracted to a capillary fistulous passage from a true fistula. The knife is frequently carried through a firm cicatricial mass, which is traversed by several old fistulous passages lying close together. Dr. Jüngken, in the performance, observes the two following precautions. 1. The bladder should not be emptied before the operation; because, when it becomes difficult to distinguish the urethra from a fistulous passage, assistance may be given by pressing with the hand above the symphysis pubis and over the bladder, so as to cause the urine to flow away, and thus to indicate its canal. A fine button-sound is then passed into the contracted urethra; and over this a fine hollow sound, upon which the passage is slit upwards and downwards. 2. The skin incision should be sufficiently extensive, so that a full view may be had of the exposed parts, and a clear idea obtained of their relative positions. In many instances, the diseased urethra has been found forced quite away from the normal position. Dr. Jüngken holds that the use of the catheter and of bougies cannot be dispensed with after this operation. The immediate introduction of a catheter is indicated after the operation, and the use of bougies is necessitated after cure during the whole of the patient's life.

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## Art. 195.—*On Vesical Absorption in the Healthy Subject.**

### By M. E. Ségalas.

(*Gazette Hebdomadaire*, No. 14, 1869.)

"In the year 1824, my father, in his researches on absorption, proved that the mucous membrane of the bladder did absorb an alcoholic extract of nux vomica. In 1862 I repeated the experiments of my father, and made out that rabbits, into whose bladders I introduced a solution of sulphate of strychnine, succumbed rapidly under the influence of this poison.

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* Communicated to the Académie des Sciences.

"M. Susine, in 1867, after having alluded to the negative result that had attended experiments made by M. Claude Bernard with curare upon the bladder of dogs. concluded from investigations made upon himself that the vesical epithelium was impermeable by certain substances.

"Fifty centigrammes of iodide of potash dissolved in sixty grammes of distilled water were injected into the bladder in two healthy men. In neither of these experiments, which I watched with very great care during forty-eight hours, did the examination of the saliva indicate the absorption of the medicinal agent. When the same dose of iodide of potassium had been administered by the rectum, one readily made out its elimination by the saliva and urine. These new experiments, then, justify us in concluding that the bladder in the healthy man does not seem to absorb iodide of potassium."

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## Art. 196.—*Diagnosis of Chancre.*

By Berkeley Hill, M.B., F.R.C.S.

In his work on *Syphilis and Local Contagious Disorders*, Mr. Hill writes:—

"It is usually easy to decide whether a sore on the genitals is derived from a local contagious ulcer if attention be paid to the distinctions that will be immediately enumerated. It is true, there is sometimes a difficulty in deciding that syphilis has not been imbibed at the same time as the local irritant. This difficulty is impossible to solve in all cases if the source of the sore is uncertain, and if the period necessary for the incubation of syphilis has not elapsed when the examination is made. In practice, nevertheless, such instances are not common; in the great majority of venereal ulcers, a positive opinion can be given at once, and for the rest, a short period of observation suffices for deciding the question, by the speedy appearance of the changes peculiar to syphilis betraying the presence of that disease. The differences between the local chancre, and the primary manifestation of syphilis, are contrasted in the following parallel paragraphs. They are altered from those of one of Clerc's pupils, M. Blacheyre."

### Distinctions between the Local Ulcers and the Primary Manifestations of Syphilis.

| *Local Ulcer.* | *Syphilis.* |
|---|---|
| 1. *Incubation nil;* irritation is at once displayed by reddening and speedy ulceration of the point of contagion. | 1. Incubation is always of some length; the average being twenty-four days. |
| 2. Ulceration frequently begins by a pustule. Ulceration is an essential condition, and is always very active during the first few weeks. | 2. The manifestation begins by a papule. Ulceration, if accidental irritation is absent, is never active. Superficial erosion is sometimes present as soon as induration begins, but even this is often delayed till the induration is far advanced, and may be altogether absent. |

| *Local Ulcer.* | *Syphilis.* |
|---|---|
| 3. The virulent character of the ulceration, gives the sore its tendency to enlarge, and its long duration, extending in mild cases six weeks, in severe ones much longer. | 3. The indolent character of the ulceration, of which the duration is uncertain, and depends on the condition of the patient. |
| 4. The *aspect of the ulcer is characteristic;* it is hollowed, the surface is spongy and undermined; the edges are sharply cut, and the discharge is opaque, yellow, and plentiful. | 4. The *aspect of the papule is characteristic;* it is often not ulcerous, but simply eroded, or desquamating. When the surface is ulcerated, it is smooth, and covered with adherent scanty secretion. The edges are not undermined, but raised, sloping, or rounded. |
| 5. The base of the sore is supple, unless thickened by inflammatory congestion; but this pseudo-induration disappears when the inflammation is subdued. | 5. The base of the papule is of gristly hardness, quite independent of inflammatory action; is peculiar in character; very rarely absent in men, and generally present in women. It usually lasts several months before it disappears. |
| 6. Multiplicity of the sore is the rule. This results from the consecutive inoculations of the parts around with the discharge of the original sore. | 6. The papule is habitually solitary. When there are more than one the papules are all of one age. |
| 7. The lymphatic glands remain either unaffected, or become acutely inflamed, and form abscess, or bubo. | 7. The lymphatic glands are almost invariably affected by slow, irregular enlargement of the whole group, at a certain length of time after infection, but suppuration is infrequent, and when present is the consequence of ordinary irritation. |
| 8. The matter of these buboes is often inoculable on the bearer. If so, it is pathognomonic of chancre; it also converts the bubo into a chancre. | 8. When abscess forms around the enlarged lymphatic glands, it is not inoculable on the bearer. |
| 9. However long the chancre lasts, it remains a local disease. | 9. Between two and three months after contagion, erythematous and papular eruptions appear on the surface of the body. |
| 10. Phagedena and ulceration of inflammatory kind are frequent complications. | 10. Any inflammation or extension by ulceration is rare. |
| 11. Pain in the sore is usually sharp, often severe. | 11. Absence of pain. |
| 12. Seldom met with away from neighbourhood of the genital organs. | 12. Tolerably frequently met with on parts away from the genitals. |
| 13. The source a similar ulcer. | 13. The source is most usually an ulcerating papule of a syphilitic eruption. |
| 14. Antecedent to the disorder, the patient may or may not have had syphilis, and may have had similar ulcers several times before. | 14. Antecedent to this, the patient has not had syphilis, or such a hard-based ulcer. |

| *Local Ulcer.* | *Syphilis.* |
|---|---|
| 15. The secretion of the sore is inoculable on the bearer, until cicatrization is advanced. | 15. The secretion is very rarely inoculable on its bearer, and so only when its surface is irritated into acute suppuration. |
| 16. The discharge is also inoculable on animals. | 16. The discharge is not inoculable on animals. |
| 17. It may be many times repeated in each individual. | 17. It is only once developed in each individual. Exceptions to this are too rare to invalidate the rule. |

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## Art. 197.—*On Prolonged Extension, and on Pain in Coxalgia.*

### By Dr. Hennequin.

(*Archives Générales de Médecine*, No. 2, 1869.)

1. Pain is the sole obstacle to prolonged extension in cases of coxalgia.

2. The intensity of the pain is in direct relation to the force of traction and the sensibility of the region; inversely to the extent of the surface which supports the extension.

Dr. Hennequin has sought to carry out his principles by means which consist in,—1st, the position to be given to the lower limb; 2ndly, the choice and the number of the points of application of extension and counter-extension; 3rdly, the arrangement of the apparatus. He has demonstrated that the thigh should rest in a position of moderate adduction on a horizontal plane, the trunk being somewhat elevated; to place the lower limb in a double inclined plane is to put it in a position which is contrary to the laws of physics and damaging to the final result.

Arranging according to their value the positions to give to a lower limb subjected to prolonged extension, Dr. Hennequin has placed in the first rank the position *en équerre;* in the second rank the rectilinear position; and thirdly, the position in the double inclined plane, which last should not be employed unless the surgeon be forced. Unfortunately, in coxalgia, the faulty positions of the limb do not allow one always to select one position rather than another.

Passing in review the regions which may receive extension, and the means employed for practising it, M. Hennequin names first the posterior surface of the calf, next the inferior extremity of the femur, next the cutaneous surface, and finally, the malleolar and calcaneal regions. With regard to the means of extension, the most efficacious seem to be the padded band made with a hollow corresponding to the bloodvessels of the popliteal region, the laced bracelet, and bands of diachylon with the stirrup.

The regions which may, simultaneously or alternately, support the counter-extension are always, according to their value, the tuberosity of the ischium, the external iliac fossa, or the horizontal branch of the pubis.

A description is given of an extending apparatus which is capable of making extension in all positions of the limb, correcting at the same time whatever pelvic deviations there may be in the following manner :— If the pelvis be inclined laterally towards the sound limb, all the counter-extension is thrown upon the external iliac fossa and the pubic branch of the depressed side; if the pelvis be inclined forward, the counter-extension is applied simultaneously to the two branches of the pubis; if it be inclined backwards to a single ischiadic tuberosity. The most favourable time for the application of the apparatus in cases of fracture of the femur is from the tenth to the twentieth day after the accident; in cases of coxalgia, from the commencement of the period of muscular spasm.

The force of the traction should be proportionate to the amount of development of the muscular tissue. The best sign of its efficacy is the pain which is produced in the track of the articular ligaments which are concerned in transmitting it to the osseous levers when the power of the muscles has been overcome.

*On the pains in coxalgia.*—The pains in coxalgia are of two kinds: the first depends on inflammatory processes, and is seated about the morbid lesions; the other occupies more or less remote regions, and resides in the fibrous tissues.

Muscular action, and consequently the faulty position of the limb, is the cause of the latter; inflammation gives rise to the first.

The theories which explain the radiation of the pain from the seat of the disease to remote regions by the medullary canal of the bone, or by nerve filaments, do not seem to Dr. Hennequin to be admissible.

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## Art. 198.—*A Safe and Effectual Operation for the radical Cure of Varicocele.*

By Paul F. Eve, M.D.

(*American Journal of the Medical Sciences*, January.)

The operation is thus performed:—The patient being etherized, the scrotum over the left testicle, previously denuded of hair up to the external abdominal ring, is so secured by the thumb and fingers of the left hand, or, still better, by Ricord's fenestrated forceps for phymosis, but double their length in the blades, that about four square inches of it is excised by a knife, and without opening the tunica vaginalis. Before detaching the forceps, *pins* are to be inserted through the integuments near the cut edges, around these the figure-of-8 sutures are subsequently applied. Beginning with these at the most pendent part of the scrotum, and ascending towards the cord; when the latter is reached, the veins are carefully examined, if found much enlarged, they are to be separated from the vas deferens and spermatic artery, and an *animal* ligature tied around them just sufficiently tight to arrest the circulation. The entire wound is then closed accurately by the twisted suture. Two weeks generally complete the treatment; they are often up, however, in a week. The patients are to be carefully prepared by diet; the bowels are to be opened the day before the operation. The latter is to be im-

mediately followed by cold water; or by simple dressings and subsequently free ablutions to the parts. Any inflammatory action is to be at once checked. By the fourth day from six to twelve of the pins are to be withdrawn, and all of them by the fifth or sixth. The ligature to the veins Dr. E. has never known to produce uneasiness or any evil consequences. Pins are preferred to needles, from the slowness of their oxidation. Dr. E. recommends the operation described, because by it alone are the two principal indications for surgical interference in varicocele accomplished—the removal of redundant scrotum, and the destruction of the enlarged veins. By it the parts are fully exposed to view, and the artery and vas deferens certainly avoided. It cannot fail to produce a radical cure. It is safe, simple, and certain. There is no danger from phlebitis, the veins not being wounded but simply closed, and by a ligature which is entirely dissolved in a few days. The entire wound healing mostly by the first intention.

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## Art. 199.—*On Spermatocele.*

### By Dr. F. Stendener.

(*Archiv für klinische Chirurgie,* Band x. Heft 1, 1869; *Gazette Hebdomadaire,* No. 15, 1869.)

The origin of cysts containing spermatozoa is variable, and at the present time all observed spermatoceles may be ranged in three groups, the existence of which has been confirmed by anatomical researches. In the first place, spermatic cysts are developed at the level of the epididymis without the tunica vaginalis. To this group belong the majority of cases of spermatocele. These cysts are sometimes multiple (Curling, Syme, Uhde). In very exceptional cases they may attain a considerable size. Curling has operated upon one containing thirty-two ounces of fluid, and Rothe has reported a case in which the cyst contained two pints. In the second place, spermatic cysts may be developed over the epididymis within the tunica vaginalis. These cysts are very rare. They have been described by Gosselin, Lewin, Curling. In the third place, we have hydrocele, properly called, containing spermatozoa. Of this form of spermatocele we possess but two pathological and anatomical researches—viz., those by Paget and Curling—to establish its existence.

Dr. Stendener has had opportunities for observing on the living subject, and subsequently for making a post-mortem examination, a fourth form of spermatocele which could not be included within any of the preceding three groups. This fourth group contains cysts formed by the glandular canaliculi of the testicle itself.

The following were the characters observed during life:—The right half of the scrotum was swollen, and presented a transparent elastic tumour, reaching as far as the inguinal ring; the testicle could be easily felt below the tumour; the tunica vaginalis did not contain fluid. Dr. Blasius diagnosed an encysted hydrocele of the spermatic cord, and spoke of the possible presence of spermatozoa. A puncture gave exit to 350 cubic centimetres of a fluid containing an enormous quantity of

moving spermatozoa. Five months later the patient died from cancer of the liver, the cyst in the meantime had returned.

At the autopsy it was made out that the testicle was sharply separated from the tumour. The tunica vaginalis included a small quantity of serous fluid which did not contain any traces of spermatozoa. The cyst contained 135 cubic centimetres of a thick fluid, of a soapy appearance, with a density of 1011, and presenting under the microscope a considerable quantity of spermatozoa. Chemical analysis demonstrated after filtration a large proportion of albumen and a small quantity of glycose.

The cyst was entirely separated from the vas deferens, which, with the vessels, was situated at the posterior part of the cyst. This covered the head of the epididymis in such a manner that this organ was found to be placed between the parietal layer of the tunica vaginalis and the wall of the cyst. Near the head of the epididymis and below the cyst was another small lenticular cyst furnished with cylindrical epithelium presenting vibratile cilia, and formed without doubt at the expense of the remains of Muller's body. The hydatid cyst of Morgagni was somewhat flattened, but readily discernible. The spermatic cyst could be easily separated from the epididymis and tunica vaginalis, but was adherent to the testicle over a portion three millimetres in length and fifteen in breadth, near the upper extremity of the rete testis. The cystic membrane was continuous at this part with the tunica albuginea. A median section across the testicle and the cyst showed that a great number of the canals of the testicle were united to the cyst, and apparently opened into its interior. A fine hair, however, could not be passed through the orifices of these canals.

In this case, then, one had to deal with a cyst formed by the retention of products of secretion in a part of the rete testis, due to obliteration of the communication between the canals of the rete testis and the excretory tubes. Virchow has already described the formation of cysts by obliteration of the seminiferous canals, and although the conditions of formation are not known, this obliteration may be admitted to explain the formation of cysts in the vesicle of Morgagni, those which are consecutive to the obliteration of the vasa deferentiæ and to obliteration of the canaliculi of the epididymis.

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## Art. 200.—*Recent Experience in Ovariotomy.*

By T. Spencer Wells, F.R.C.S., Surgeon to the Queen's Household.

(*Medical Times and Gazette,* November 28, 1868.)

Since last October Mr. Wells has completed the operation of ovariotomy in the Samaritan Hospital in thirty-six cases, besides one case in which he performed the operation successfully for the second time on the same patient. Of the thirty-six women, thirty-one recovered and five died. And it is a remarkable fact, Mr. Wells writes, that in *every case* in which the pedicle was long enough to enable him to use the clamp the patient recovered. There were thirty of these cases—thirty clamp

cases in one year without a single death. In two cases he used the cautery. One of the patients recovered, and one died. In four cases he tied the pedicle, and returned it into the cavity of the abdomen after cutting off the ends of the ligature. All these four patients died. Two of them must have died, he thinks, in whatever manner the pedicle had been treated. They were almost hopeless cases, and the operation was done as a forlorn hope. In one case the patient was sinking fast from septicæmia, a cyst filled with fœtid fluid and poisonous gas having been washed out repeatedly, but ineffectually, with carbolic acid, and it was at last removed with only the very faintest hope of saving life. In the other case, extensive pelvic adhesions and disease of both ovaries had been pretty accurately made out, and had led to repeated tappings rather than ovariotomy. But at length, when tappings became of no avail, the cysts were removed, with some slight hope but with far greater apprehension. A clamp could not be used in either case. The pedicles were too short. The cautery might have been used; but the pedicles were of the kind where the cautery is often ineffectual in stopping bleeding—broad, thin, membranous attachments, with large vessels. In such cases the ligature succeeds well in stopping bleeding; but whether the ends are left hanging out through the opening in the abdominal wall, or are cut off short and returned with the pedicle, the results in Mr. Wells's hands have been almost equally unsatisfactory.

Mr. Wells states that he has often been asked here, What becomes of a ligature and of the tissues strangulated by the ligature when closed up in the peritoneal cavity? And he has from time to time given his reasons for believing that ligatures of fine pure silk are dissolved or disintegrated, and cannot be found after a few weeks. He has also shown that a pedicle secured by a silk ligature may be found some days afterwards either (1) surrounded by coils of adhering intestine, or (2) as the centre of a purulent cavity, or (3) apparently very little altered by the ligature, or else (4) absolutely dead or gangrenous. All these different conditions Mr. Wells has actually seen, accompanied by more or less evidence of peritonitis, and depending more, he believes, on the general health of the patient and the condition of her blood than upon any little difference in the material, or thickness of the ligature, or the mode of its application.

In speaking of the changes which foreign bodies themselves undergo when left in the peritoneal cavity, Mr. Wells says:—Ligatures, either of silk or hemp, up to about the twenty-first day scarcely show any change, except some softening of the hemp. "Between the particular fibres which compose the ligature thread a number of young cells insinuate themselves, separating the threads from each other in some places in a remarkable manner, and evidently penetrating from neighbouring parts. After a longer time the fibres are in this manner completely separated from each other, the knots loosened, the threads totally unravelled. Where a ligature had cut through, in several cases its track was marked by the remnants of single fibres."

Then as to the changes produced by the ligature in and about the parts where it is applied. The Breslau professors, Dr. Spiegelberg and Dr. Waldeyer, found the ligatures either "(1) closely encapsuled by newly formed cellular tissue; or (2) free in the peritoneal cavity, having

slipped off from the tied parts; or (3) free, as if swimming in a small cystic cavity of the stump."

In one case, where a ligature had completely slipped off from the part which it had surrounded, and had been free in the peritoneal cavity, it had become firmly connected with a neighbouring coil of intestine by means of young cells springing up from the serous membrane which had penetrated between the fibres of the thread, so that there was almost an organic union between the surface of the intestine and the knot of the ligature.

Where a ligature had to cut through a thick substance—as the body of the uterus or one of its horns—the track of the ligature could be distinctly seen on section, with help from a strong lens, as a fine grey line. It began as a slight indentation of the peritoneal coat corresponding to the place where the ligature first caught. As early as the fifth day this indentation had become so shallow as to be in no proportion to the deeply grooved ring round the tissues powerfully constricted by the ligature. Under a higher magnifying power the delicate line is seen to be formed by a streak of new cells, which mark the track of the ligature; but no trace can be seen of mortified particles of tissue. "It appears therefore that a ligature divides tissues in a very gentle manner, as if the tissue elements become loosened and separated before it while new cells are formed, and the gap behind it closes, so that the divided surface is scarcely ever exposed, at least within the peritoneal cavity. The first occurrence after the application of a ligature is evidently the union of the two borders of the ring cut by the ligature. In this way the thread is soon shut off from communication with surrounding parts, and then lies completely shut up in a circular canal. We have seen this very clearly in two post-mortem examinations made three days after ovariotomy. There were already abundant groups of new tissue sprouting up from the neighbourhood over the ligatures, which had cut deeply into the pedicle, and almost completely covering it. In the new granulation tissue numerous bloodvessels can be discovered very early, so that the transition to permanent tissue is very soon effected."

The authors conclude from their experiments that ligatures enclosed in the peritoneal cavity do not lead to any evidence of acute local peritonitis, and, so far as the tissues of the uterus and mesometrium are concerned, can hardly be regarded as foreign bodies. They nowhere induce processes of mortification in these tissues, but, on the contrary, are enclosed and encapsuled on every side by them. In dogs as soon as the eighth day.

We now come (Mr. Wells continues) to some very interesting observations, well worthy of careful consideration, upon the changes in the surface of the divided parts of the uterus. After a few days—from four to six—no free divided surface could be seen. Surrounding portions of the mesometrium, bladder, or coils of intestine rapidly adhered to it. In one case, after nine days, numerous bloodvessels were observed running between the coats of the bladder and the uterus. In another case, after twenty-one days, the spot from whence an ovary had been removed could not be detected, so perfectly smooth and free from any cicatrix was the posterior abdominal wall where the ovary had been. In another case, six days after operation, the cut end of the left horn of the uterus was

found soldered between two coils of intestine. The mesometrium was drawn in between them and united with their coats and mesentery. The divided horn of the uterus itself was also partly adherent to the intestine.

The most complete and extensive adhesions of the uterus were always with its own mesometrium. This was always observed, even when other organs were also adherent. The cut surface of the uterus falls upon the neighbouring mesometrium; new cells spring up from the latter and unite with the granulations from the uterine surface. Afterwards retraction of the new formed granulation tissue draws the stump of the uterus more and more within the folds of the mesometrium until it is completely surrounded. A very free vascular communication has been observed between their united surfaces. The authors never observed any divided surface either free or with shreds of gangrenous tissue about it.

Similar conditions were observed in the two ovariotomy cases just alluded to. The divided surfaces of both pedicles were on the third day perfectly fresh, without any gangrenous appearance. In the first case, where both ovaries were removed, both pedicles were free and directed upwards; in the second case the divided surface of the pedicle was in contact with the peritoneal covering of the psoas magnus, with which it was connected by new cells, and without any trace of gangrene.

Passing on to the consideration of the effects produced by the ligature on the part enclosed by it—the stump—the authors say that when a bloodvessel is tied the strangulated end of the vessel dies and is thrown off with the ligature. Hence the rule not to tie a vessel far from its cut end, but as near as it can be done with certainty to stop bleeding. So that when it was proposed to tie a pedicle of an ovarian tumour and leave ligature and stump in the peritoneal cavity, it was feared that there would be great danger from the death of the strangulated stump. At the same time, if the stump were left very short by cutting away the tumour close to the ligature, it was feared that the ligature might slip off, and internal bleeding take place. The authors consider that their experiments prove these fears to be exaggerated—at least they establish the fact that in dogs there is no gangrenous change in the stump, nor any trace of mortification either on the divided surfaces or on the parts behind the ligature. In the case where the divided end of the uterus adhered between two coils of intestine, the stump had contracted to a nodule hardly as large as a pea, consisting of a part of the uterine wall with its mucous membrane everted, and containing all its structural elements, including the utricular glands, completely unaltered. The openings of these glands had thus been brought free in the peritoneal cavity.

Larger stumps were enveloped in folds of the mesometrium Their canals were almost always pervious, and in some had become dilated into a sort of cyst with muco-purulent contents. Sometimes the ligature-knots lay within these cysts, the texture of the walls remaining almost unaltered, and the mucus- and pus-corpuscles showing very little retrograde metamorphosis. In most cases there remained a narrow communicating opening between the cavity in the stump and the rest of the uterus. In two cases the cavity of the stump was obliterated and filled

with young granulation tissue, in which no epithelium of the uterine cavity could be found, although there were remnants of utricular glands. All this proves that the textural alterations take place by simple retrograde metamorphosis, fatty degeneration, and gradual absorption, with a formation of cells which become permanently organized tissue, but without the occurrence of any violent inflammatory or gangrenous changes.

The authors have not much to say about the changes in the surfaces cauterized. Only three animals were subjected to experiment, and these were killed on the sixth, fourteenth, and twenty-sixth days after the application of the cautery. On the sixth day the cauterized surface of the central part of the uterus appeared quite fresh, beset with numerous small brown-black particles of animal charcoal, not softened, but firm and hard. At a depth of two to three millimetres, the uterine tissue was coloured reddish, as if from imbibition of the colouring matter of blood. The uterine cavity was shut off from the peritoneal cavity, but rather by the firm agglutination of the tissues of the cauterized surface than by granulations, none of which could yet be seen. The microscope showed the tissue of the cauterized part to be unaltered, the vessels dilated, and many of them filled with clot. The colouring appeared to be due to blood-corpuscles and diffused colouring matter of the blood. All these changes, however, were circumscribed, and might easily have gone on to complete restoration. Much more extensive alterations were found on the two cauterized surfaces of the uterine horns. These were so completely surrounded by folds of the mesometrium that they could not be seen until these folds had been dissected off. At only one spot of the left horn near the cauterized surface, an opening was found as large as a pin's head, which opened into the dilated cavity of the horn. About two centimetres distant from the cauterized surface, the mucous membrane and the muscular tissue of the uterus were softened and gangrenous. Shreds of mucous membrane lay in the cavity, the walls of which were formed merely by serous membrane and the adherent mesometrium. The vessels, even to the smallest, were completely blocked up by clot. The gangrenous process about the cauterized parts appeared to be due to the extension of clot in the vessels; but all was encapsuled by the mesometrium. No pus was found in the peritoneal cavity, not even near the small opening which communicated with the uterine cavity. A successful result might therefore have been expected. It was obtained in the two following cases.

After fourteen days the cauterized surfaces of the central extremity of the uterus, as well as those of both horns, were all completely encapsuled by mesometrial folds. The central extremity of the uterus was firmly united to the posterior wall of the bladder by perfectly organized connective tissue. The cauterized surface of the right horn was firmly united to a coil of small intestine.

On the twenty-second day repair was found to be most complete. The cauterized surface of the body of the uterus was bound to the posterior wall of the bladder by a fibrous band. The cauterized surface of the mesometrium was everywhere smooth; nothing could be seen to show that a piece of it had been separated by the cautery from the horns of the uterus. The cauterized spots on the uterus were smoothly

encapsuled, and the only traces of the cautery were minute remnants of animal charcoal. These fragments of charcoal lay in a firm fibrillated connective tissue which closed the uterine cavity. The epithelium of the uterus and the other elements of the uterine wall were perfectly preserved.

Mr. Wells states that he is indebted to Dr. Maslowsky, of St. Petersburg, for two papers which he kindly sent him, one from the ninth volume of Langenbeck's *Archiv*, and the other from the *Berliner klinische Wochenschrift*, which contain observations corroborative of those by Spiegelberg and Waldeyer. In one successful case Dr. Maslowsky removed both ovaries, treating the right pedicle by the cautery and the left by ligature, returning both into the peritoneal cavity. And he made twelve experiments on rabbits, dogs, and cats, removing the horns of the uterus and the omentum, sometimes by the galvanic cautery and sometimes by red-hot irons, in order to study the process of capsulation of the eschar after its enclosure within the peritoneal cavity, and the share which the white blood-corpuscles have in this process. As these corpuscles take up vermilion from the blood, Dr. Maslowsky injected vermilion into the jugular vein at different periods after his experiments, in order to trace the corpuscles in any product of inflammation.

Microscopic examinations of the animals at different periods, from fifteen hours to seventy days after operation, proved that the eschar on the uterine horns and on the omentum is first covered by effused fibrine, and is afterwards united by membrane with surrounding organs. "The fibrinous exudation contains many round cells charged with vermilion, and some nucleoli free from vermilion. It soon loses its fine fibrillar structure, and is changed into a finely granular mass. The round cells with vermilion assume an oval form, and then spindle-shaped cells are also seen without vermilion. Some cells contain black nucleoli not composed of vermilion; afterwards these may be seen between the fibres. As the capsulation becomes more complete, the oval cells which contain vermilion become long and then spindle-shaped. And Mr. Wells has sometimes observed that the ends of two spindle-shaped cells coalesce, and at once form a fibre. In the new-formed membrane, capillaries are seen as soon as the fourth or fifth day, and on the tenth or twelfth the vessels may be easily injected. Mr. Wells has also seen in the membrane newly formed elastic fibres and scaly epithelium, both free from vermilion. The false membranes have a similar structure. It is therefore an undeniable fact that the white blood-corpuscles participate in the formation of the new membrane which covers the eschar and unites it with surrounding organs."

The eschar made by the galvanic cautery consists of animal charcoal and blood pigment. The particles of animal charcoal are partly lying in the eschar, and are partly enclosed in surrounding connective tissue. When red-hot iron is used, the eschar also contains particles of oxide of iron, some of which are also found enclosed by the elements of connective tissue. It is proved that the black specks are really iron by the ordinary chemical reactions. The mucous membrane of the uterus near the cauterized part was suppurating, and the pus-corpuscles contained vermilion.

Dr. Maslowsky also made a number of observations on the mesentery

and mesometrium of frogs and rabbits, in order to ascertain the precise changes which the vessels themselves, and the blood circulating in them, undergo after the application of the cautery. From twelve to twenty-four hours before examination, vermilion was injected into the jugular vein. The frogs were immobilized by woorara, the rabbits narcotized by opium. The results of the microscopical observations are as follows :—

"*a.* The end of closed arteries is contracted immediately at the cauterized part, but at some distance from it the artery is dilated. The canal of the veins is affected exactly in the reverse manner.

"*b.* The blood in the vessels contains black particles from the heated iron, and separates itself distinctly into a layer of white blood-corpuscles, which are near the cauterized spot, and a layer of red blood-corpuscles, which are further away.

"*c.* In the closed arteries after two days the movement of the column of blood is maintained. A part of the blood, with the black particles of the cauterized artery mixed in it, reaches back towards the trunk of the vessel. The movement of the blood in cauterized veins is only kept up for a very short time. There is complete stagnation, not only in the cauterized vein itself, but it extends further up to the junction with larger veins.

"*d.* The black particles are taken up by the white blood-corpuscles. This can be seen most distinctly in the vessels where stagnation of the blood is not complete.

"*e.* The migration of white blood-corpuscles, partly containing vermilion and partly black particles, begins twenty, thirty, or sixty minutes after cauterization. They are first seen in the veins into which the cauterized vein opens; afterwards in the veins near the cauterized part. Very few white corpuscles migrate from the arteries. In frogs, as the mesentery is very broad and transparent, this migration can be observed for three days; in rabbits only for six or eight hours.

"Similar changes in the vessels and migration of white blood-corpuscles I have also observed after ligature of mesenteric vessels, and after burning away part of the tongue in the frog. When entire portions of mesentery are burnt away, the same alterations occur, but to a much greater distance.

"A hot iron shaped like a bird's bill, so as to enter for some distance into a vessel, was used in three cases, and I observed a migration of white blood-corpuscles charged with black particles, which chemical reaction proved to consist of oxide of iron.

"It is therefore certain that particles of iron from the iron cautery may be transmitted with the white blood-corpuscles into different tissues."

These recent observations are, Mr. Wells thinks, of sufficient importance to justify him in having brought them before the profession at such length. But he cannot feel encouraged by them, as the authors have been encouraged to look upon either the cautery or the ligature, or any *intra*-peritoneal method of dealing with the pedicle of an ovarian tumour, as equal, far less as superior, to the clamp or to any other *extra*-peritoneal method.

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## Art. 201.—*A Third Series of* 100 *Cases of Ovariotomy, with Remarks on Tapping Ovarian Cysts.**

By T. Spencer Wells, F.R.C.S., Surgeon-in-Ordinary to Her Majesty's Household, and Surgeon to the Samaritan Hospital.

(*The Lancet*, May 15.)

The author has arranged in a table all the cases in which he has completed the operation of ovariotomy, from the 200th case included in previous papers to the 300th. In other tables he gives particulars of all his incomplete and exploratory operations. He finds that the mortality lessens as experience increases. Of the first 100 cases 34 died, and 66 recovered. Of the second 100, 28 died, and 72 recovered. But of this third series of 100 cases, only 23 died, and 77 recovered.

The author has endeavoured to ascertain what influence tapping ovarian cysts may have upon the mortality of subsequent ovariotomy, and he has arranged in a table all his cases where tapping had never been done, and those in which it had been done from once to sixteen times. The general mortality of the 300 cases was 28·33 per cent. Nearly one-half of the patients, or 135, had never been tapped. In them the mortality was 27·40 per cent.—not one per cent. less than the average mortality. Rather more than one-fourth of the patients, or 78, had been tapped once. In them the mortality was 25·64 per cent. There were 19 who had been tapped three times, and the mortality was 26·32 per cent. Of the 36 who were tapped twice the mortality was exactly the same as that of the group of cases tapped from four to sixteen times,—namely, 33·33 per cent.

The author is led by these facts, and by other considerations discussed in the paper, to the following conclusions:—

1. That one or many tappings do not considerably increase the mortality of ovariotomy.

2. That tapping may often be a useful prelude to ovariotomy, either by giving time for the general health to improve, or by lessening shock when the fluid is removed a few days or hours before removing the more solid part of an ovarian tumour; and

3. That when the syphon-trocar is used in such a manner as to prevent escape of ovarian fluid into the peritoneal cavity, and of entrance of air into the cyst, the danger of tapping is very small.

Dr. West agreed with Mr. Wells as to tapping being of service, especially as a preliminary operation, which might satisfy the surgeon, the patient, and her friends. In most cases the patient cannot be said to die of the tapping. We were apt to be dazzled by the success of ovariotomy. He would not speak so were it not necessary for him to, as it were, recant his former opinions. He could therefore with greater grace advocate the use of the minor operation. He would ask if any one now used iodine after tapping?

Mr. Spencer Wells, in reply to Dr. West, said that he had lately con-

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* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, April 27.

versed with M. Nélaton and M. Boinet, who had both large experience in the treatment of ovarian cysts by iodine injections, and he found that they had both arrived at the same conclusion as his own experience of seven cases would lead to. Of his own seven cases, only one patient was alive who had not since undergone ovariotomy. This one was still in tolerable comfort nearly ten years after the injection; but a rather large cyst could still be felt. If a cyst was unilocular, with thin walls and limpid contents, then, after tapping and injecting iodine, a radical cure occasionally followed. But it was very doubtful whether iodine had much or anything to do with the cure, because tapping alone, without the use of iodine, in this form of cyst was also occasionally completely successful. No more fluid was secreted, the cyst collapsed, its walls probably coalesced, and after a time no trace of it could be detected by the most careful examination. When the contents of a cyst are viscid, iodine is quite useless. In such cysts, and in multilocular cysts generally, injections of iodine should be restricted to cases where for some reason ovariotomy cannot be performed, but where a cure may be hoped for after suppuration and drainage. Here washing out the cavity, once or twice a day, or oftener, with plenty of iodine in solution, becomes very useful, by deodorizing the offensive secretions, and probably by preventing absorption of putrid fluid and blood-poisoning.

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## Art. 202.—*Cases of Ovariotomy.*

By Thomas Keith, F.R.C.S.E.

(*Edinburgh Medical Journal*, October.)

The three following cases are placed on record by Mr. Keith:—

"Case LXI.—*Solid Malignant Tumour of Ovary with Ascites. Ovariotomy. Recovery.*—Mrs. B., forty-three years of age, expected her fourth confinement towards the end of August, 1867. The catamenia had been regular up to the preceding November, and with the exception of severe attacks of pain in the right side, and more than usual vomiting, there was nothing to excite suspicion that there was anything different from her former pregnancies. Getting alarmed after she had passed her expected term nearly two months, and finding herself becoming rapidly thin and losing strength, she consulted Dr. Espie of Falkirk, who detected an ovarian tumour, and sent her to Dr. Duncan, with whom I saw her.

"She was a tall, gaunt, pallid, emaciated woman, of unhealthy aspect. The abdomen was filled by a hard, fairly moveable tumour surrounded by ascitic fluid. The upper margin of the tumour was rather ill defined, and there was a groove or depression in it, over which there was generally a coarse crepitus or gurgling. The uterus was central and moveable, but the slightest movement of the tumour—even the very laying of the finger on it—was communicated to the cervix. Indeed, from physical examination alone, it could not have been diagnosed from a fibroid outgrowth from the uterus. No relief could be obtained by drawing off the ascitic fluid, and the case was one for ovariotomy or nothing. Ovariotomy was performed on the 2nd of November. Dr. Epsie was present from Falkirk. At first the anæsthesia was very quiet, but the supply of ether became exhausted—for I did not expect a long operation—and chloroform alone was given during the last hour, when vomiting became very severe. The incision extended

from three inches above the umbilicus. A dark vascular tumour was exposed, quite unlike anything I had yet met with. After separating some firm anterior adhesion, and allowing the ascitic fluid to escape, it was found, on attempting to turn out the tumour entire, that the transverse colon lay imbedded in it. On trying to separate this, the upper part of the tumour broke away, and as the mass was then turned out, some extensive posterior adhesions in the pelvis and right iliac fossa gave way. The pedicle was secured by a clamp. The adherent colon, with its omentum and mesentery, was then freed by the fingers and scissors from the portion of tumour which was left. Many vessels were twisted, and besides, at least upwards of thirty bleeding points were secured by ligatures, the ends being cut off short. Some bleeding points in the intestine could not be secured without including portions of the muscular coat in the ligature. The bleeding was unusually free—especially in the pelvis below the bifurcation of the aorta, where a large piece of pelvic peritoneum had come away on the tumour; here it was necessary to tie large pieces of oozing cellular tissue, some of them as large as the point of the finger. There was much chronic peritonitis, and an unusual amount of sponging and handling of the intestines was necessary. This was unavoidable, from the oozing being again and again set up during the chloroform vomiting. The wound was finally closed by twelve deep silk sutures; and fearing lest the vomiting might set up hæmorrhage when the patient was put to bed—as happened in one of my former cases—a glass tube was placed above the clamp, down behind the uterus, to give exit to any oozing. The left ovary was natural. The operation lasted upwards of two hours, and when the patient was put to bed she was pulseless, and looked as if she would die.

"The tumour was sent to Dr. Sanders, who pronounced it malignant both to the naked eye and on microscopic examination.

"The recovery in this case was for long doubtful. She was very feeble for many days, with a distressing feeling of giddiness and faintness. Vomiting was severe for the first thirty-six hours, and it continued at intervals for four days, when flatus passed downwards. The glass tube was removed on the seventh day, the opening closing at once on its removal. At least a pint and a half of dark red serum escaped through it. It was kept covered with lint soaked in carbolic oil, a very fine drainage tube being placed inside forming a syphon through which the serum trickled into a little dish at the patient's side.

"On the seventh day she began to suffer from colicky pains and great distension. This increased, in spite of everything, and towards the end of the second week, the meteorism was like to prove fatal. Faradization and long-continued doses of strychnine were tried in vain. Relief was only obtained by distending the colon by enemata of hot water. These generally brought away much flatus, and had to be repeated often every few hours. On the seventeenth day, a boggy swelling, which had formed behind the uterus, was punctured by a trocar, but it only contained fluid blood. During the third week the distension gradually subsided, and on the twenty-first day she was up for the first time. At the end of four weeks all swelling in Douglas's space had disappeared. The pulse never at any time rose above 120. The temperature was not taken, for the least unnecessary movement for a long time brought on sickness. The wound healed without discharging a drop of matter, and, notwithstanding the great distension, a more perfect linear cicatrix was never seen. About the time when she first got out of bed, it was observed that two deep sutures had escaped notice, and they were allowed to remain for experiment. Six weeks afterwards I saw them harmless and quite dry. When seen six

months after operation, this patient had such a look of health that Dr. Duncan, myself, and the nurse who attended her, mistook her for a robust sister who had been with her during her illness. Her after history will be carefully watched. That the cancerous affection will return somewhere, I fear there can be little doubt.

"CASE LXII.—*Multilocular Ovarian Tumour. Ovariotomy. Recovery.* —On the 11th of July, 1867, I saw, with Dr. Carmichael, a married lady, fifty-five years of age, from the west of Ireland. At the age of forty-two, the catamenia suddenly ceased, and since then her health had been indifferent, chiefly from attacks of chronic diarrhœa. The tumour was of slow growth, and had been felt above the pubes for at least two years. All along she had had much pain in the pelvis; latterly this had been very severe, and locomotion was ill borne. Her general condition appeared good: she was fat, and had not the look of one suffering from ovarian disease.

"The tumour reached to a little above the umbilicus. The upper part fluctuated; the lower two-thirds were irregular and unusually hard. It was quite immovable. The cervix uteri could just be felt far back at the promontory of the sacrum. The uterus itself seemed to be drawn up behind the tumour, and the sound passed nearly five inches. The pelvis, between the uterus and pubes, was occupied by a hard irregular tumour, quite fixed.

"After several examinations, the impression left upon me was, that the tumour had more the characters of a fibro-cystic tumour of the uterus than of an ovarian tumour. As she quite dreaded the return journey to Ireland, and as there were no urgent symptoms, and the tumour not large, it was arranged that she should remain for some months in the neighbourhood of town. The tumour rapidly increased, and she suffered so much from pain and distension that tapping became necessary in September. Much relief followed. The fluid, of which there was nearly 20lbs., was a thin serum, depositing on standing about 15 per cent. of blood clot. I need hardly say that the nature of the fluid confirmed the previous impressions of the case. The sound could now be passed into the uterus little more than three inches, and the uterus felt as if it could be isolated from the solid part of the tumour in the pelvis, where its relations were otherwise the same as before.

"The fluid quickly accumulated, and the patient acquired the thin worn look of ovarian disease. It was agreed to make an incision and then be guided by circumstances. This was done on the 21st of November. Dr. Maclaren of Lasswade, Dr. Carmichael of Burntisland, and several medical friends of the patient were present. The peritoneum was opened at the umbilicus, and the white glistening surface of an ovarian tumour exposed. The large cyst was emptied, opened to admit the hand, the semi-solid portion broken down through it, and then the tumour was turned out, after separating it from firm parietal adhesions above the umbilicus, firm adhesions in the pelvis behind the pubes, and from numerous bands in the pelvis. The peritoneal covering of the bladder was slightly injured. Seven or eight vessels were secured by ligature, and in doing this a small reflector was of much service. The pedicle was short, but from the previous elevation of the uterus it was fastened outside without any strain. So completely was the uterus drawn up behind the tumour that I came upon the upper margin of the pedicle in the epigastrium, and thought at first that it was a piece of adherent omentum or intestine.

"There were no unfavourable symptoms. There was, however, more suppuration from the wound than I have seen for a very long time. It seemed to be caused by the strangulation of a ring of cellular tissue from one of the sutures having been tied too tightly. I had a letter from her lately saying that she was quite well.

"Case LXIII.—*Semi-solid Ovarian Tumour. Ovariotomy. Recovery.*—Mrs. B., aged thirty-two, married nine years and childless, was sent to me in the summer of 1867, by Dr. Greig of Dundee, on account of a semi-solid tumour of slow growth, extending to a little above the umbilicus. The girth was thirty-seven inches. The uterus was high, drawn to the right, and it was not moveable. A large piece of the tumour was felt behind it in the pelvis. This also felt fixed. Till she had seen Dr. Greig she was supposed to be suffering from a fibrous tumour, chiefly because there was a bruit in it. This disappeared when she was moved over to her side. She was a delicate-looking woman, and had never been robust. Many years ago she had a large pelvic abscess, which was opened above the pubes. Hitherto she had not suffered much inconvenience from the tumour. I rather, however, recommended early operation as long as her health was fairly good.

"She returned to Dundee very much the worse for her journey to town. She had now frequent attacks of pain, her health began to give way, while the tumour rapidly enlarged, and she came back on the 24th of October, very anxious to have it removed. It now filled the abdomen, and was painful; she was troubled with constant sickness, and could get rest in no position at night. After waiting ten days, she looked so wretched and ill that ovariotomy was performed on the 4th of November, though the period was expected on the following day. Dr. Engelman of Kreuznach was amongst the visitors. There was a good deal of parietal adhesion; the omentum was attached behind the pubes, and was cut through to reach the tumour, which was then broken up in the usual way, and removed through an opening scarcely extending to the umbilicus. The cyst came close to the uterus. Double ligatures were first applied, embracing a piece of the cyst, and then a clamp; but there was so much strain upon the uterus that the fundus was brought against the wall. The left ovary was enlarged, containing a thin cyst about the size of a pigeon's egg. It was low in the pelvis, and was with difficulty brought into view. The cyst was seized with two pairs of forceps, punctured, and then torn quite across. There was a good deal of red serum in the abdomen, and part of the small intestine was red and granular. The weight of the broken-down cysts was 16lbs.

"Anæsthesia was produced by a mixture of two parts of ether and one of chloroform. She sickened severely during the operation, but vomited only a single mouthful of frothy mucus. There was no after vomiting. After doing fairly well for some days, she became exceedingly nervous and depressed. There was no rise of pulse, and the temperature, which had been normal, fell to 96°·4, and continued so for nearly twenty-four hours. Convalescence was slower than usual, and she had several boils near the wound. She returned to Dundee in the fifth week after operation, and has been strong and well since."

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### (c) CONCERNING THE UPPER EXTREMITY.

### Art. 203.—*Reunion of a Phalanx which had remained detached from the Finger for three-quarters of an hour.*

By Dr. Goschler.

(*Wiener Medizinische Wochenschrift*, Nos. 65, 66, 67, 1868; *Gazette Hebdomadaire*, No. 42, 1868.)

After the collected reports of Prédagnal, Sommé, Beauchêne, Balfour, and Braux, one can no longer doubt the reality of reunion of the

phalanges, and even of fingers, after separation for a longer or shorter time. Facts of this kind however are rare, and the surgeon often fails in his attempts to bring about reunion. The following case deserves notice, as it is an encouragement to aim at reunion in like cases.

A man, sixty years of age, whilst cutting wood, wounded a part of his ring finger, which afterwards remained for three-quarters of an hour in cold water at eleven degrees Réaumur. The separated portion of the finger represented nearly the whole of the last phalanx. The section had taken place about half a line from the joint on the palmar surface, and at the level of the ungual canula. The flap contained about five-sixths of the nail, nearly the whole of the third phalanx, and the intermediate soft parts; it was about two centimetres and a half in length, and its palmar surface one centimetre at its dorsal surface, and two centimetres and a quarter in breadth. This portion of the finger was pale, the cut surface blanched, and the bone regularly cut through.

Dr. Goschler attempted to gain reunion by first intention, the flap was replaced with care, and kept in its place by strapping; the dressing was completed by salve and a bandage. On the following day, April 30th, the dressing was tinted with blood. There was no pain, redness, nor bad smell.

On the 1st of May the patient was restless, and the finger was painful; the circumference of the wound seemed to be in perfect adaptation along a fifth of its extent; a reddish deposit of blood was interposed between the margins of the flaps in the rest of the wound. During the following three days no apparent change took place; the extremity of the finger was livid and cold, but adherent and evidently sensitive.

On the 6th of May a part of the epidermis was detached; the exposed dermis appeared to be normal.

On the 10th the finger became slightly œdematous but not at all painful; the rest of the epidermis together with the nail was removed, the dermis was red and bled readily, a small slough about two lines in width and one line in thickness was removed from the palmar surface; reunion seemed to be perfect along the whole extent of the wound.

On the following days the slough extended a little and then became covered by granulations.

On the 25th of May a small spicula about half a line in length, a quarter of a line in width, and a sixth of a line in thickness was removed from a small wound on the palmar surface of finger.

On May the 30th the cure seemed complete, the nail had commenced to grow, and the functions of the finger were perfect.

Cure was thus perfected in one month, and in spite of the formation of small granulations, and the discharge of a spicula of bone, there was no suppuration nor the appearance of a drop of pus; the granulations produced barely a serous exudation. This circumstance is attributed by Goschler to the employment of close dressing—*pansement par occlusion*, which being maintained with care, prevented any action of the air. In addition, reunion by agglutination already existed thirty-six hours after the commencement of the treatment, and on the ninth day there was decided reunion between the soft parts, but not between the osseous fragments. A point of special interest in this case is the re-establishment of sensibility on the third day.

## Art. 204.—*On the Treatment of Compound Luxation of the first Metatarsal Bone.*

By MM. Blanquinque and Lassalas.

(*Gazette Hebdomadaire*, No. 15.)

The following conclusions have been derived from some elaborate discussions on compound luxation of the head of the metatarsal bone. In this injury the surgeon ought—

1. To practise reduction, which can always be done by enlarging the wound.

2. To extirpate the whole of the bone when, in addition to a luxation of the anterior joint, there is complete luxation upon the cuneiform bone, with laceration of the muscles and ligaments, the natural supporters of the nutritive vessels.

3. In cases of reduction, to make a preventive incision as recommended by M. Langier.

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## Art. 205.—*On Compound Dislocation of the Elbow-Joint.*

By Theophilus Mack, M.D., St. Catherine's, Ontario.

(*Dominion Medical Journal*, March.)

In all cases of compound dislocation of the elbow-joint the two following rules, the author writes, should be considered absolute:—

1st. If injury to the nerves or artery has been done, amputate as soon as the pulse will warrant the operation.

2nd. In cases where amputation appears unnecessary, let reduction be effected after resection, never without.

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## Art. 206.—*On the Checking of the Movements of Supination and Pronation after Cure of Fractures of the Forearm.*

By Prof. R. Volkmann.

(*Neue Beiträge zur Pathologie und Therapie der krankheiten der Bewegungsorgane*, Berlin, 1868; *Schmidt's Jahrbücher*, No. 10, 1868.)

Professor Volkmann holds that the hitherto received explanation concerning the loss of rotation movement after fractures of the forearm, namely, dislocation of the fractured portions into the interosseous space, either with fusion of the four fragments in a common mass of callus or with luxuriance of callus, which narrows the interosseous space, is insufficient, because lateral synostoses between the radius and ulna, even after complicated fractures and gunshot wounds, have been very rarely observed, and luxuriance of callus, since it is an occurrence almost without exception for the arm to be fixed on pronation in cases where the movements of rotation have been completely or partially lost, would be more likely to induce a hindrance to pronation than one to supination. He assents to the assumption of Dr. Benno Schmidt, that peripheral

dislocation of the fractured portions, which may be easily overlooked in the living subject, presents a decided obstruction to movements of supination, and adds to Schmidt's experience the results of other researches which indicate a further cause for the checking of these movements.

If in a case of fracture of the forearm near the union of the middle and upper thirds the limb be pronated, it may then be observed, when attention is paid to the radius only, the fragments of which are moveable, that these fragments, always in proportion to the extent of pronation, form a prominent angle either on the volar or even on the ulnar side of the limb, the first form of dislocation being, as is well-known, a frequent occurrence in cases of isolated fracture of the radius. Should the fracture of the radius be consolidated in this angular position with the forearm maintained in pronation, it would necessarily happen that this bone, when the forearm comes to be supinated, would be carried from the position in which it crosses the ulna to one in which it is parallel to it, and that the apex of the angle formed by the dislocated fragments would be twisted over to the radial side of the arm; but the interosseous ligament will only allow of as much supination as its width permits; the greater the angulation, so much the sooner will the stretched ligament act as a hindrance. Volkmann is able to show the correctness of this opinion by two practical examples.

An old fracture of the radius was found on examination of a dead body; the left forearm was somewhat deformed in its upper part, and was in a position of complete pronation, and could be rotated outwards only to a slight degree. The seat of fracture was found about three inches below the capitulum, both fragments were united end to end, but were much dislocated and formed an angle of 166°, the apex of which was turned towards the ulna; there was no peripheral dislocation. Even after removal of all the muscles and soft parts, with the exception of the ligaments about the joints and the interosseous ligament, the radius could not be supinated more than 30°; whence it was perceived that the extended interosseous ligament, the width of which at the seat of fracture was scarcely twelve millimetres, prevented the backward rotation. After the interosseous ligament had been separated along its whole length from the radius, complete supination could be effected, the width of the interosseous space after the backward rotation of the angle of fracture previously directed inwards, was thirty-six millimetres, so that the interosseous ligament, in order to allow supination, ought to have been thrice as wide. In this case the dislocation of the fractured parts, in consequence of its inaccessibility on palpation under the thick muscular layers, could during life have been easily overlooked; by pressure with supination it might have been readily removed. According to post-mortem experiences, considerable displacement with an isolated fracture of the radius is possible only when the interosseous ligament is torn to a certain extent from the upper fragment.

An example in a living subject was observed by Volkmann in a man whose radius had been fractured through direct violence about one inch above its middle. A pasteboard splint was applied to the forearm, half pronated, and bent at right angles to the upper arm; the fracture was consolidated in a few weeks. Volkmann was consulted at the end of

three months, as the movements of the hands had not been perfectly restored. The state of nutrition of the arm seemed to be quite normal; all the movements could be easily performed, with the exception of that of supination, which was incomplete and could not be carried to its normal extent by about 50°. A firm but still somewhat elastic resistance could be felt, and the patient experienced a painful sense of stretching at the seat of the recent fracture, this however was completely firm, there was no pain on pressure, nor could any callous protrusion be made out: both fragments of the radius, however, were united at an angle which projected at the volar aspect of the forearm, and was determined after repeated measuring to be about 165°.

Volkmann concurs in Malgagni's advice, that a fractured forearm is better treated in a position of almost complete supination, or at least that it should be so placed that the thumb when bandaged shall not look directly upwards, but be turned more towards a position of supination, so that the patient can look into the hollow of the hand. In cases where the movement of supination has been quite lost after cure of the fracture with the arm in the prone position, Volkmann holds that it is justifiable, with displacement of the axis of the radius, to saw through this bone at the seat of the recent fracture, and to carry the arm into a position of complete supination, afterwards maintaining it thus until the fragments are reunited. Even in cases where the fractured ends of the radius are united with much peripheral displacement, osteotomy is the best means for bringing about re-establishment of movement.

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ART. 207.—*On Fractures of the Olecranon without Separation of the Fragments and without upward Displacement of the Superior Fragment.*

By Prof. BARDINET.

(*Bulletin de la Société de Médecine de la Haute-Vienne*, 1868; *Gazette Hebdomadaire*, No. 7, 1869.)

Professor Bardinet has been led to believe, from clinical experience and from anatomical consideration, that in cases of fractured olecranon separation of the fragments is rare, and in instances where it does occur it is produced by flexion of the forearm, and can be nearly always removed by means of extension. A case was reported by Roux of fracture of the olecranon, in which the lesion could not be recognised for several days. Two cases are reported by M. Bardinet of flexion producing a considerable separation of the fragments after fracture of the olecranon, which was not to any extent due to an upward displacement of the superior fragment. The following are given as the chief bonds of union between the two fragments:—The aponeurotic expansion of the triceps, which covers the posterior surface of the apophysis with a layer of fibro-periosteal tissue; the band of Sir Astley Cooper, which forms a tense cord between the two extremities of the arc formed by the hollow of the olecranon; the fascial origin of the anterior cubital muscle, the fibres of which are very favourably disposed for retaining the superior fragment in opposition to the contractions of the triceps; the superior

fibres of the anconeus act especially upon the irregular movements of the outer side of the fragment; and finally, but to a slight extent, the articular capsule. The most important obstacle to the upward displacement of the superior fragment is the olecranal portion of the internal lateral ligament, which is inserted at the lower part of the epitrochlea, and radiates from thence to the internal border of the olecranon. When the forearm is flexed this ligamentous band is vertical, and when the forearm is extended it describes a semicircle backwards, and takes an oblique direction from below upwards, and from before backwards; it is then very favourably disposed for retaining the olecranon in its natural position.

The following were the results of experiments made by Professor Bardinet on the dead body:—If the olecranon be fractured at its base, without there being any laceration of the surrounding fibrous tissues, the fragments will remain in close contact to one another, so that the fracture may be readily overlooked.

If the fracture has been complicated with a partial laceration of the fibrous expansion of the triceps muscle, the fragments will be separated from each other to the extent of one centimetre, or of one and a half. The extent of separation will not be increased during flexion of the arm.

If the fibrous extension of the triceps be completely torn through, whilst Cooper's ligament remains intact, the fragments will separate during flexion and form a triangular interspace, the apex of which will be directed towards centre of the joint, and the base towards the external integument. The finger can be readily pressed down between the fragments.

If both the fibrous expansion of the triceps muscle and Cooper's ligament be torn through, the superior fragment will be retained during extension of the arm in its normal position, but with flexion will undergo a considerable and gradually increasing separation from the shaft of the bone. The interspace will not be of a triangular form, and will permit the fingers to be pressed deeply down without any ligamentous obstruction.

In consequence of these facts, Professor Bardinet treats fracture of the olecranon by keeping the arm in the extended position. Anchylosis, he thinks, is not so likely to follow, as has been supposed. He objects to Desault's plan of placing the upper limb in an intermediate position between extension and semiflexion, as this is likely to result in an irregular or incomplete union. Two cases are reported by M. Bardinet. In the first the splints were removed on the thirty-fifth day, and in the second on the thirtieth day. In both cases there was perfect union, and the stiffness of the joints was gradually removed by passive movements.

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## Art. 208.—*On Excision of the Elbow.*

By George Buchanan, M.D.

(*Glasgow Medical Journal*, November, 1868.)

Excision of the elbow is an operation of such established reputation, and its results so wonderful in regard to the use of the joint, that the interest

of the surgeon is now confined to the cases suitable, the mode of operating, and the after-treatment. The eight cases reported by Dr. James Buchanan in the November number of the *Glasgow Medical Journal*, all operated on within a year, contain examples of almost every condition for which it may be undertaken, except primary excision for injury. With regard to the mode of operating, the single straight incision, in every instance except one, sufficed to expose the parts to be excised. As to the after-treatment, Dr. Buchanan has entirely discarded the use of any splint or apparatus. In some instances the limb was laid partially bent, on a pillow, without any dressing whatever. In others, a water dressing and bandage were applied. In a third set, carbolic acid and oil, and over that antiseptic putty, were used. In all, the progress to cure was uninterrupted, except by the formation of small abscesses, the evacuation of which was followed by rapid progress. Nothing in the mode of after-treatment seemed to make any difference in the occurrence of these secondary abscesses; and Dr. Buchanan is inclined to believe that—considering the comfort of the patient, the rapidity of the cure, and the after result—the best treatment is by position, rest, removal of any discharge which may trickle away, and abstaining from any dressing whatever.

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## Art. 209.—*On Excision of the Elbow-Joint for Injury.*

By C. F. Maunder, Surgeon to the London Hospital.

(*The Lancet*, January 2.)

It has fallen to Mr. Maunder's lot to perform primary excision of the elbow-joint in seven instances; and most of his colleagues have also performed this operation more than once. At the London Hospital amputation of the arm for compound comminuted fracture opening the elbow-joint is rarely resorted to, and then only in cases in which the soft parts as well as the bones are damaged extensively and beyond recovery. In a comparatively healthy subject, Mr. Maunder says he should remove large fragments both of the humerus and of the bones of the forearm, rather than submit a patient to the terrible alternative of amputation.

Of the seven cases referred to, two died: of these, in one instance the injury to the elbow was associated with a compound fracture of the skull; and in the second case—the patient being of a most desponding disposition—death resulted from pyæmia. The remaining five cases recovered with useful limbs; flexion and extension, supination and pronation, being secured to all in varying degrees.

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## Art. 210.—*On a New Operation for Cancer of the Breast.*

By Richard Sweeting, M.D., M.R.C.S.E.

(*The Lancet*, March 6.)

Since all return of purely local cancer must depend on amorphous cancer-cells not removed by previous operations, and as it begins in

this fascia, Dr. Sweeting, in this paper, proposes, *instead of removing the breast from the fascia, to remove the lower two-thirds of the pectoralis major, and all that is above it except a portion of the skin.* Dr. Sweeting states that he has operated in this way in three different cases, and with permanent success in each case.

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(D) CONCERNING THE LOWER EXTREMITY.

## ART. 211.—*Putting-up Fractures of the Leg.*

By JAMES PAGET, F.R.S., D.C.L., Surgeon to St. Bartholomew's Hospital.

(*The Lancet*, February 27.)

In an able lecture on the treatment of fractures of the leg, Mr. Paget stated that the custom at Bartholomew's Hospital is to put up all these fractures at once. "I think," he said, "that, as you watch fractures, you will find that there are very few instances indeed in which you need depart from this rule—very few in which the damage done is such as to make it at all advisable to leave the fracture for a time imperfectly at rest on a pillow, for any supposed righting of the fragments, diminution of swelling, or other supposed change for the better. I do not say that there are no such cases; each case is to be judged upon its own special grounds; but you may always begin the treatment of a fracture with a strong prejudice in favour of putting it up at once."

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## ART. 212.—*Neuralgia of the Internal Saphenous Nerve.*

By M. BOUSSEAU.

(*Gazette des Hôpitaux*, January 19.)

M. Bousseau related two cases to the Société Médicale d'Observation, which he believes may be thus correctly denominated. He says:—1. This form of neuralgia manifests all the characters observed in the neuralgias of the principal nerves of the trunk and limbs. 2. It is sometimes directed towards the terminations of the nerve, and at others mounts up from these towards its main trunk. 3. It may exist alone or concurrently with neuralgia of other branches of the crural nerve, and with that of the sciatic nerve. 4. It is a very rare affection, and is promptly ameliorated by injections of sulphate of atropia.

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## ART. 213.—*Perforating Ulcer of the Foot.*

(*The Lancet*, May 1.)

Mr. Hancock read a valuable paper, at a meeting of the Medical Society of London, a short time ago, on this peculiar ulcer. The author had collected a few cases from the practice of the French surgeons, and

mentioned one of his own. As these cases are decidedly rare, we are therefore induced to extract the following from a late number of the *Gazette des Hôpitaux* (Jan. 9th, 1869) :—M. Masbrenier had to treat a man, fifty years of age, who had performed on foot a journey of 500 miles. The patient perceived that a corn had formed on the plantar region. As it gave pain he pared it, and found, underneath, a small ulcerated cavity, of a red colour, and containing a serous fluid. On the patient's application to M. Masbrenier, the ulcer was as large as a threepenny-piece, surrounded by hard epidermis, very thick, and of a yellow colour. It was situated over the metatarso-phalangeal articulation of the third metatarsal bone. Walking was very painful. Lunar caustic was applied, and the indurated epidermis removed, a fair prospect of a cure being evident. The case is not complete in this shape; for considering what has taken place in other cases of the kind, it is very likely that some caries of bone will ensue.

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## Art. 214.—*Suture of the Tendo Achillis.*

By M. Delore.

(*Bull. de Thérap.*, September 15 ; and *Medical Times and Gazette*, February 6.)

M. Delore, of the Charité Hospital, Lyons, relates the case of a boy, nine years of age, who was brought to that hospital twelve days after his tendo Achillis had been cloven by a small hatchet. A separation of four centimetres existed between the two parts of the tendon. These were cut down to, and after some adhesions had been separated, and the edges of the tendon pared, these were brought into contact by four points of metallic suture. The leg was so fixed that no traction was exerted on the sutures. In from ten to fourteen days all the sutures were removed without union having taken place. There was, however, no separation, and the limb was kept in the same position, the starch bandage not being removed until the fifty-second day. Six weeks were required to restore the complete mobility of the limb after being so long fixed, but at the end of that time the boy had recovered complete use of the extremity. No separation between the ends of the tendon now existed, some adhesion having, however, taken place between it and the skin covering it.

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## Art. 215.—*Treatment of Talipes Varus.*

By Bernard E. Brodhurst, F.R.C.S., Lecturer on Orthopædic Surgery at St. George's Hospital.

(*The Lancet*, December 5, 1868.)

The *treatment of varus* should commence within some few weeks of birth. Nothing is gained by delaying the operation; but, on the contrary, through delay more time is required to produce an equally successful result. From one to two months after birth is the time which should be selected for the operation.

In very slight cases the distortion may be removed by bandaging and movements of the limb; such treatment is long, however, and often it is unsatisfactory. In an ordinary case of varus the distortion cannot be removed by such means. With regard to mechanical treatment, Phillips says: "In the first degree of varus in infants, the foot may be restored without the division of tendons, and through the use of an instrument for extension only; but such treatment is both difficult of execution and occupies much time, it is often painful, and it is rarely efficacious. In every case, even the most simple, it is better to divide the tendons."

The tendons which require to be divided in talipes varus are those of the tibialis posticus and the tibialis anticus muscles, and the tendo Achillis. And in dividing these tendons it is right to remember that, varus being a compound distortion, its removal must be effected by various stages. Thus, inversion of the foot should first be overcome, after the tendons of the tibial muscles have been divided: the distortion is thus reduced to the condition of equinus. In infantile varus the plantar fascia is seldom contracted, or so much contracted as to require division; but when it has to be divided, it should be done before the section of the tendo Achillis is effected.

In dividing the tendon to be operated on, the knife should first be passed well beneath it; and the cutting edge being then turned towards the tendon, this will be divided transversely on extending the limb. Some operators, Mr. Brodhurst says, cut down upon the tendon instead of cutting upwards or towards the surface, believing this to be the simpler method. It is a mistaken notion, however, for not only is the mode which he has indicated easier to perform, but effusion of blood is spared by adopting this mode of division of tendons. If not always entirely bloodless, this operation is for the most part so; but it is difficult to avoid wounding vessels when the knife is used to cut down upon a tendon, and frequently under these circumstances the effusion of blood is not inconsiderable.

To divide the tendon of the tibialis posticus muscle, the tenotome should be passed down to the edge of the tibia, at from three-quarters of an inch to one inch above the malleolus, and the sheath of the tendon be opened freely, without enlarging the external puncture. The rounded knife may then be passed into the wound, and, guided by the edge of the bone, it may be directed beneath the tendon. In the adult, the tendon being prominent and easily felt, the sharp pointed knife may be slipped beneath the tendon immediately that the sheath has been opened; but in infants it is safer not to use a pointed knife for the division of the tendon.

The anterior tibial tendon should be divided immediately after the posterior tibial has been divided. The knife should be passed beneath the tendon from without inwards as it passes over the ankle-joint, and the puncture should be made close to the tendon, that the artery may not be divided. Occasionally, the anterior tibial is more tensely contracted than the posterior; in which case it should be divided first.

It is of real importance that the tendons now mentioned—namely, the tibial tendons and the tendo Achillis—should be completely divided,

so that the restoration of the shape of the foot should proceed without hindrance. Should the tendon be transfixed, and consequently only in part divided, the treatment would be rendered, at least in a large number of cases, nugatory.

Before, however, this tendon is divided, the mechanical treatment of varus must be undertaken.

After a tendon has been divided subcutaneously, the puncture is immediately to be closed with a morsel of lint, and the limb, having been bandaged, is to be bound to a well-padded, flexible metallic splint. It is a rule which should always be observed to place the limb, after division of the tendons, in the same position as before the operation; consequently, the splint is to be bent to the angle which the distortion represented, and bound on the inner side of the foot. When the punctures have healed—on the third or fourth day—the splint is to be removed, and one similar in kind, but longer, is to be applied on the outer side of the leg and foot. Even though a slight degree of traction alone be employed, it will be found that in the course of three days the foot will have yielded more perhaps than could have been expected from the amount of tension which may have been exerted. On replacing the splint the same effect will be produced, until at length the foot is fully everted.

If in the infant it is important, as has been already stated, to deal with talipes varus as a compound distortion, and divide the treatment into stages, it is of much greater moment to attend to this injunction when the patient is older; for should the Achilles tendon be divided before inversion of the foot is removed, it may be impossible to bring the tarsal bones into their normal positions, and to unfold the longitudinal and transverse arches. It is therefore the rule not to divide the tendo Achillis, whether in infantile or in adult varus, until the foot has been fully everted. Although rotation of the anterior portion of the foot may only be slight, yet the difficulty of removing it, and replacing the bones in their normal positions, would be greatly increased by dividing the tendo Achillis, and thus destroying the fixed position of the os calcis.

The plantar fascia, when contracted, should be divided before the support of the Achilles tendon is removed from the os calcis, whether in infantile or in adult varus; otherwise the longitudinal arch of the foot can scarcely be fully expanded. It is rare, however, that the plantar fascia requires to be divided in the infant; yet occasionally the central portion of the fascia may require division, or the inner band of fascia may alone be contracted. In either case the contracted portion should be fully divided. In the adult the plantar fascia offers a serious impediment to the restoration of the shape of the foot, and always requires to be freely divided.

After the deformity has been removed, active and passive exercises of the limb, together with friction, galvanism, bathing, and other like means, must be employed, until easy if not complete power of motion is gained; for if the shape of the foot alone is restored, and the power to move it is overlooked, the patient will walk, but without elasticity and without motion at the ankle-joint. Then distortion, to a slight extent at least, will recur, and the tendons will again require to be divided.

Thus it is that the treatment of talipes varus consists of, in the first place, the removal of the distortion; and secondly, the restoration of the functions of the limb.

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## Art. 216.—*The Treatment of Talipes Valgus.*

By Bernard E. Brodhurst, F.R.C.S.

(*The Lancet*, December 19, 1868.)

The *treatment of congenital talipes valgus* varies as the amount of deformity varies. Thus slight cases of valgus are occasionally met with, just as slight cases of inversion of the foot are also sometimes seen, which require no other treatment than simply the application of a bandage, to bring the foot gently into its normal position.

When the tendons are rigid—indeed in all severe cases of congenital valgus, and in all ordinary cases—it is necessary to divide the retracted tendons. Whenever tenotomy is necessary in valgus, the peronei tendons require division. In a somewhat increased grade of distortion the extensor longus digitorum will also require division. The distortion should then be reduced to a condition of equinus; and eversion having been slowly and gently, but entirely overcome, the tendo Achillis, when the gastrocnemius is tense, should be divided. The foot should then be flexed upon the leg until the natural position of the limb is gradually restored. The peronei tendons may be divided at one inch above the external malleolus, and the extensor longus and peroneus tertius as they pass over the tibio-tarsal joint.

The *treatment of non-congenital valgus* varies also according to the degree of deformity and the cause which gave rise to deformity.

A large majority of cases of valgus depends on general and local debility, and in these the form is restored by local support and rest of the limb. The general health always in these cases requires attention; the patients are usually overworked and under-fed or wrongly fed. In many, especially where the affection occurs in the young with lax fibre, a well-made boot, with a spring in the sole, together with attention to diet and limiting exercise, is all the treatment that is necessary. But when the distortion is of long standing, and structural shortening has taken place, it will be necessary to divide the peronei tendons, as well perhaps as the tendo Achillis. In paralytic valgus it is seldom necessary to divide tendons, except it be perhaps the tendo Achillis. And it is never necessary in rachitic valgus to divide any tendons. In rachitic valgus the tarsal bones undergo some change in form. The treatment in these cases is that which Mr. Brodhurst has recommended as the treatment of rickets. When rickets is far advanced, and the valgus condition of the foot is considerable, it is useless to attempt to restore the arch of the foot.

Spasmodic valgus being a sequel of convulsive action, it is necessary, after the subsidence of irritation, and when the epileptiform condition, or analogous state has been removed, to divide the retracted tendons and restore the shape of the limb. There is often superadded contraction of other muscles than those of the foot, the upper extremity

also frequently being affected, as well as the muscles of the thigh (especially those of the internal and the posterior femoral regions); but in the foot it becomes necessary to divide the extensor longus digitorum, in addition to those other tendons which have been already mentioned.

The mechanical treatment of this, as of every other deformity, should be carried on without force, so that the integument may not be injured. The treatment in many cases is tedious; but force is not necessary: the structures will yield to slow and continued extension.

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## Art. 217.—*Talipes Calcaneus.*

By Bernard E. Brodhurst, F.R.C.S.

(*The Lancet*, December 19, 1868.)

*Talipes calcaneus.*—The essential characteristic of talipes calcaneus, whether congenital or non-congenital, is depression of the heel. In congenital calcaneus, the dorsum of the foot is brought more or less into contact with the anterior surface of the leg; and it is retained in this position by retraction of the flexor muscles of the foot. In this respect therefore talipes calcaneus is the reverse of talipes equinus.

Congenital calcaneus is the least important of the several varieties of talipes; for the distortion is easily removed by manipulation and bandaging. And should it not have been removed before the child begins to walk, the muscles of the calf of the leg, which extend the foot, rapidly overcome this abnormal action of the flexors. Doubtless, however, cases are occasionally seen in which structural shortening of the flexor muscles has taken place, and where, consequently, operative proceedings are necessary to restore speedily the normal position of the foot. In these rare cases, the tendons of the flexor muscles require to be divided as they pass over the ankle-joint; the foot should then be supported on a well-padded, flexible splint; and at the expiration of a week, slight, gradual extension, as in the other forms of talipes, is to be made until the normal position of the foot is obtained.

*Non-congenital talipes calcaneus* is usually of paralytic origin: the heel drops through paralysis of the muscles of the calf of the leg. Here, therefore, as in congenital calcaneus, the heel first touches the ground in walking. The principal changes to be observed, then, in this form of talipes, are depression of the os calcis, elevation of the anterior portion of the foot through retraction of the flexor muscles of the foot, and shortening of the plantar fascia; through which the sole becomes deeply arched, and the heel and the ball of the great toe become further approximated. In this deformity, especially when it arises from paralysis, the muscles of the calf of the leg undergo wasting and fatty degeneration. And, when the distortion is of long standing, not only are the muscles of the calf of the leg attenuated, but all the muscles of the leg will have passed into a state, more or less, of fatty degeneration.

*Treatment.*—It is seldom necessary, in the treatment of this affection, to divide the flexor tendons. The plantar fascia, however, generally requires division, and subsequently mechanical treatment will improve the shape of the limb. If, however, these cases are seen soon after

distortion has arisen, not only may much deformity be prevented, by the adaptation of mechanical means, but it is probable that muscular power may be in part or even wholly restored by means of stimulating applications, warmth, and galvanism. Unfortunately, however, these deformities are often not seen until much time has elapsed, when loss of power is probably to a great extent permanent.

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## Art. 218.—*On the Treatment of Talipes.*

By Louis Bauer, M.D., Brooklyn, U.S.

(*Lectures on Orthopædic Surgery*, New York, 1868.)

"The general treatment of talipes resolves itself into the following indications:—

"1st. The removal of muscular impediment.

"2nd. The re-position of the tarsal bones to their normal location.

"3rd. The re-establishment of the motor power.

"4th. The promotion of nutrition, growth, and development of the affected extremity.

"In young subjects, muscular contraction constitutes the *chief*, if not the only *cause* of most cases of talipes; their division is therefore the *chief and sufficient remedy* for the re-establishment of form and position of the foot. All that remains to be done besides tenotomy is to keep the newly-acquired position by appropriate appliances. If the bones of the tarsus are malformed, as is usually the case in patients of some age, who have employed their affected extremity in locomotion, the second indication presents itself as the next object of treatment. The means of replacing the tarsal bones are the hand and mechanical appliances. The former is of invaluable service. Without causing any painful pressure or contusion, the great power of the hand can be concentrated at any place where it is needed; and the more assiduously it is employed, the more rapidly the bones will yield. There is no mechanical apparatus, however ingeniously constructed, that could be substituted for the hand in the mechanical treatment of talipes with an approximate degree of efficacy. In fact, could we without interruption employ the hand as a mechanical agent, we would relieve most obstinate forms of talipes which but too frequently withstand mechanical appliances. These latter we resort to as mere auxiliaries, and for the time that the hand cannot be used. Between the two, the mechanical treatment should be divided; and proper care should be taken that the apparatus is always properly adjusted, so as to act effectively in the intended direction. In order to accomplish this, the patient should be constantly under the eye of the attending surgeon, or of a competent substitute, and the propriety of placing a patient in an orthopædic institution suggests itself most forcibly. For to patients or nurses such a duty cannot be assigned; they are neither competent, systematic, nor resolute enough!

"To a certain extent, the remedies previously suggested comply also with the 3rd and 4th indications. It is a common observation of orthopædic surgeons, that the relief of contracted muscles by tenotomy reacts most favourably upon the nutrition of the affected extremity, and

nutritive supply promotes self-evidently its growth and development. Passive motion co-operates in the same direction.

"We may, however, do more to promote the motor power still extant, or maintain the fast deteriorating structure of the affected muscles. The most efficacious remedy in behalf of innervation is electricity and Faradayism. It should be used with assiduity every day and for months in continuation; it will prevent structural decay and stimulate the existing mobility; you can concentrate its action upon single muscles and muscular groups; and by perseverance, establish muscular action where none existed before. Electricity is the substitute of volition, and the best local gymnastic agent. Next are friction with alcoholic liquids; with phosphorated oil, (phosphorus gr. iij. dissolved in an ounce of warm almond-oil); the use of the flesh-brush, with or without cold irrigation, and such internal remedies as the case may suggest. Proper care should be taken to aid the generation of animal heat in the affected extremity, by advising the use of worsted stockings or flannel bandages. Besides this, a proper hygienic regimen should be observed, to promote the constitutional health.

"With all, gentlemen, you may fail in your efforts through the intricacy of the case. All surgeons have had such experience even in instances that seem to be promising. Hence I should advise you never to engage to cure, but simply to guarantee your skill and attention. Your professional dignity and prudence should prevent you from making a promise which you might be unable to realize. For the same reason do not uncharitably judge the failure of your colleagues, because they may have done their full duty and failed, where you might have been equally unsuccessful."

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## Art. 219.—*Loose Cartilage in the Knee-joint; Extraction by the Direct Method; Recovery.*

By Alfred Poland, F.R.C.S. (from Notes by Mr. W. Yates).

(*Medical Times and Gazette*, January 9.)

The following case is here recorded for the purpose of confirming the opinion of many excellent surgeons, that the removal of these bodies may be effected with comparatively little danger, provided that all due caution be adopted both before, during, and after the operation; and, again, the case proves that the direct operation is still advantageously employed:—

John F., aged fifty-eight, admitted into Guy's Hospital on July 4th, 1868, under the care of Mr. Poland.

On admission the right knee-joint was somewhat larger than the left, but there was no pain or tenderness either on pressure or movements of the joint; the patella was freely moveable, and the joint likewise. There was no abnormal appearance about the joint, and no deformity or protuberance; the integuments were perfectly natural. There was some little fluid in the joint, accounting for the slight increase in size. On careful examination a hard rough elastic substance was situated on the outer side of the right knee-joint, opposite the external condyle of the femur, and in a line with the upper part of the patella. It seemed to be embedded deeply in the tissues, and cannot be felt without a good deal

of pressure; it is perfectly moveable, and slips about from one side of the knee to the other behind the patella, and it imparts a sort of crepitant sensation to the hand on manipulation. There is great difficulty in fixing it in its ordinary position at the upper and outer angle of the joint, in consequence of the thickness of the surrounding tissues, which contained abundance of fat. Various means were devised, and Mr. Millikin made a kind of forked clamp which certainly held the loose cartilage in its position, but the pressure required was so great that the skin suffered, and the man was unable to endure it. The man repeatedly urged the extraction thereof, and would run all the risks attending the operation so that he could get rid of it, as with it in the joint he could not gain his living. He could not afford to be constantly laying up, nor could he work with his knee rendered motionless by mechanical contrivance to prevent the body slipping about. However, having signally failed in attaining the object of fixation, Mr. Poland determined to comply with the man's urgent wishes. Before proceeding to operate, the limb was placed upon a back splint, extending from the buttock to the foot, and kept in that position at perfect rest for a fortnight; and for three days before the operation an ice-bag was kept constantly applied over the knee-joint, so that on August 17th, 1868, the loose cartilage was removed under chloroform in the following manner.

The loose body being shifted to the upper and outer angle or pouch over the external condyle, the integuments were carefully drawn over it and pressed down deeply below the body into the joint, and there maintained, fixing and thus preventing the escape of it into the joint during the attempts at extraction. This important preliminary proceeding was ably performed by the dresser, Mr. Lovell, by means of the four fingers of the right hand, and his instructions were solely and wholly to attend to this pressure, and to keep it up even after the removal of the body, and until the external wound was finally closed up. A semilunar incision about two inches in length was made directly over the body, extending from the tendon of the biceps to near the patella; and after cutting the tissues to some considerable depth, the white glistening foreign body was visible. The knife divided the synovial capsule freely along the whole upper surface of the cartilage, and then a scoop-like instrument, made somewhat after the fashion of that used in lithotomy, was carefully insinuated behind the body before any attempt at extraction was made. The movement of its introduction gave rise to a peculiar sensation of a sudden giving way, as if a vacuum had been suddenly replaced by rushing in of air, a kind of suction-like process. The body was now tilted forwards, and after some little manipulation, in consequence of the tuberculated character of the structure, which prevented its ready egress, the loose cartilage was extracted. There was no bleeding whatsoever, and the wound was sewed up with a common darning needle by the overhand uninterrupted stitch. A compress was placed over the wound, and the assistant now, for the first time, relieved from his tedious job of compression, having perfectly succeeded in his object. The limb had never been moved during the whole operation, and was still on the back splint. A bag of ice was now kept assiduously applied. The stitches were removed on the fourth day, and the wound healed by first intention. There was some little tenderness in the joint on the

third day, and this was due to some rough handling which had been unadvisedly used. The splint was removed at the end of the tenth day, and slight motion allowed On the fourteenth day he was about the wards, and gradually regaining the free use of the knee. He left the hospital perfectly cured on September 2nd, 1868.

The loose cartilage removed was of the size of a walnut; it was plano-convex, and the convexity formed into prominent round tubercles, just like a well-marked mulberry calculus. Its structure was of the usual kind of loose cartilage—namely, being composed of cartilaginous and osseous tissues.

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## Art. 220.—*On the Treatment of Hygroma of the Patella and of Hydrarthrosis by Forcible Compression.*

### By Prof. Volkmann.

(*Berl. Med. Klinik.*, 1868; *Aerztliches Literaturblatt*, No. 9, 1868.)

Professor Volkmann has for ten years applied with very good results the method of forcible compression in the treatment of hygroma and of chronic synovial effusions of the knee-joint. The proceeding is the same both with effusions into the bursa patellaris and with effusions into the knee-joint itself.

To the hollow behind the knee is applied a flat wooden splint, from nine inches to one foot in length, and thickly padded with wadding to guard against pressure upon the popliteal vessels. This splint is slightly bent at the part corresponding to the flexure of the knee, so that the limb rests upon it in only a slightly bent position. The region of the knee-joint as far as the splint extends is then bound round with broad and very firm bandages of flannel or knitted material, which is pulled tight with great force. The bandage is renewed every second day.

This method is painful. The patients become impatient and complain of uneasiness. The symptoms, however, do not increase in severity, but gradually cease. How far the pressure may be carried is learnt from experience. It is very soon observed that uninflamed parts are capable of bearing unusually powerful compression without damage.

The results are very satisfactory.

In cases of simple chronic hygroma of the patella, Volkmann can recommend this as a sure and rapidly efficacious plan of treatment. An hygroma is considered as simple even when there is extensive fibrinous thickening of the walls, and when no free bodies are contained within the sac. This is a very common form.

Volkmann observed but one failure in fifty-eight cases of hygroma in front of or behind the patella. In from four to seven days the effusion was completely absorbed, even when the swelling had been as large as the fist. When the contained fluid has disappeared a loose wrinkled bag hangs down in front of the knee-joint. This never refills, but contracts very slowly.

No relapse was observed in any of these cases. Volkmann attaches great importance to the continuance of the forcible compression for at

least two days after complete absorption has been obtained, and always orders the patient to wear a simple roller for a short time afterwards.

Forcible compression is less efficacious in cases of chronic effusion into the knee-joint, as the fluid is never entirely removed; still, this plan does more service than other means. In such cases the treatment by forcible compression is associated with an evacuatory puncture of the joint, and with the application of iodine. By these means the oldest and most obstinate cases are brought to a permanent cure.

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## Art. 221.—*On Resection for Knee-Joint Disease in Children.*

### By Dr. König.

(*Archiv f. klinische Chirurgie*, ix. p. 177—221, u. 446—470, 1867, 1868; *Schmidt's Jahrbücher*, No. 1, 1869.)

To the morbid changes of the knee-joint affected with tumor albus or arthrodial disorganizations, which may necessitate the operation of resection, belong tortuous fistulous passages, preventing a free discharge of pus, ulcerations of the capsule, conversion of the ligaments into granulations, through which spontaneous luxation takes place, ulceration of the articular cartilage, absorption of the osseous tissue resulting from abnormal pressure, primary disease of bone through abscesses in the epiphyses, &c. The clinical representation indicates a chronic course: swelling, formation of fistulæ, with increasing suppuration, dislocation, multiplicity of sinuous passages, and their relapses at certain spots, permit one to determine upon the great probability of morbid changes within the joint. The fistulæ lie in front of the thigh, one or two inches above the patella, by the sides of the extensor tendon; in the hollow of the knee at the inner side of the flexor tendons, rarely near the inner and outer condyles; in the leg they are frequently placed at the upper and inner parts of the tibia, frequently in the line of the joint to the right and left of the ligamentum patellæ. Probing gives uncertain information; on the other hand, crepitation during the friction of the two articular extremities and dislocations (backward displacement of the tibia, considerable distortion externally, the condition of genu valgum) are important symptoms. When joints thus affected are not cured by conformable treatment they require resection. Against the possibility that after some years such joints can yet be cured, there is to be brought in prominence that the operation removes a host of dangers, often arrests the progress of the disease of the articular ends, and so by preserving part of the epiphyses is followed by growth of the diseased limb. Dr. König from measurements made on four joints in a new-born child and in individuals, respectively aged eleven, sixteen, and eighteen years, has found that the yearly growth of the epiphysis is about two-thirds of a millimetre at every age of life. From this it is evident that with children the surgeon must be very sparing in the removal of parts of the joint ends. The saw should be carried parallel to the cartilaginous ends of the bones. The limit of the removable parts in a child aged eleven years was in the centre of the lower end of

the femur,—the intercondyloid fossa, 1·2 centimetre above the articular surface, and at the condyles, 1·8 and 1·9 centimetre. In the femur of a girl aged sixteen years the extent of the removable parts was 1·4 centimetre in the centre, 2·1 centimetres at the condyles. In the tibia of a girl aged eleven years the saw should not be applied at a greater distance than 1·5 centimetre from the free margin of the articular cartilage in the centre, and 0·5 centimetre at each side. The tibia is generally arrested in its development to a greater extent than the femur. Useful limbs may be preserved by resection, even in cases where the surgeon is compelled, with children beyond the age of eleven years, to remove the bones beyond the limits formed by the epiphysial lines. Amputation is not indicated unless one is compelled to remove more than four inches. With children up to the age of ten years it is better to amputate in cases where the whole extent of the epiphyses must be sacrificed, since the limb left after resection loses in utility in consequence of the subsequent shortening, whilst in patients below this age resection should be undertaken whenever a large portion of the epiphyses can be retained. Above the age of eleven years, when not a very considerable portion requires to be removed from the joint, the surgeon should always perform resection, even when the whole epiphysis is to be sacrificed. In spite of the shortening which may be expected to take place, the patient may preserve a tolerably useful limb. Anæmia and general scrofulosis do not contra-indicate resection; on the other hand, amyloid degeneration and tuberculosis do.

According to the statistics of 112 cases of resection of the knee performed up to the age of sixteen years, Dr. König shows that the percentage of recoveries in children is $62\frac{1}{2}$, of deaths $19\frac{9}{44}$, and of unsatisfactory results $37\frac{1}{2}$. The mortality after the operation on children is much reduced; the proportion of failures is about 1 in 3. The rate of mortality is less than that of amputations of the thigh, considered generally. Dr. König has performed five resections, two on children, all with success. The curved incision is the most suitable. Anchylosis is to be considered as the great aim. Retention or removal of the patella has no influence upon the result. Great care must be taken to carry the saw symmetrically. The surgeon should preserve as much healthy structure as possible. Partial resection is recommended by Dr. König. The horizontal portion of the incision is brought together by sutures, the lateral portions are left open, and are dressed at first with slips of oiled lint, later with drainage tubes. Then a slightly bent gypsum splint is applied, and this is strengthened by long strips of linen or flannel placed along the popliteal space and the sides of the limb. The whole limb is then placed in a hollow of a long sand bag. The apparatus is allowed to remain as long as possible—from four to six weeks at least. It should not be removed, except with forward starting of the knee, great œdema of the extremity, and severe pains. The bandage must then be cut away with an ordinary carving knife, and a fresh one applied under chloroform. The gypsum bandage is to be preferred to all others.

Dr. König gives the following remarks on the indications for amputation, and those for resection and conservative treatment in cases of gunshot wound of the knee:—

1. The question of the admissibility of resection and conservation for gunshot wounds of the knee has not yet been decided by experience. In the face of the doubtful intelligence communicated by the statistics of thigh amputations, conservative treatment carefully applied and adapted to the principles of modern surgery seems in a great number of cases to be urgently prescribed.

2. The course of lesions of the knee shows that the patients suffer from absorption fever—septicæmia—which is set up by the local decomposition of the exudation, and may be either very acute and frequently fatal or less severe.

3. In cases of extensive injury of the joint by firearms primary amputation is demanded; a useful limb cannot be preserved, and injuries of this kind are very liable to result in an acute and rapidly fatal septicæmia. Less severe injuries may at once be treated according to the principles of conservative surgery. In consequence of exterior conditions primary resection is rarely possible in a campaign.

4. The treatment of these slighter injuries of the knee is carried out according to their course. The occurrence of acute septicæmia necessitates in most cases amputation. A not very acute attack of septicæmia requires a free discharge from the joint of secreted fluids, and the removal of foreign bodies and osseous fragments. In some cases simple incisions will be sufficient for these purposes; in others, extensive opening of the joint, with or without resection (removal of the involved portions of bone), will be requisite. In all cases, and even after the last mentioned severe measures, firm bandages of gypsum, &c., should be applied.

5. Extensive destruction of bone, in every circumstance, even when no threatening symptoms are present, demand resection; or, in cases where the lesion extends far beyond the epiphyses, secondary amputation.

6. The occurrence of pyæmia, except in rare cases, does not offer an indication for operative measures.

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## Art. 222.—*On Resection of the Knee-Joint.*

By L. Stromeyer.

(*Handbuch der Chirurgie*, Bd. 11, 1868; *Schmidt's Jahrbücher*, No. 1, 1869.)

According to Stromeyer, resection of the knee succeeds only under the following suppositions:—1. The existence of certain indicated hygienic conditions during the after-treatment (isolation of the patients in huts and tents). 2. Restricted destruction of the hard and soft parts (resection is not performed unless the saw can be applied within the limits of the epiphyses). 3. Very excessive distortion of the extremity causes great difficulties during the after-treatment, and even in the operation. 4. Great care in the after-treatment; an apparatus must be applied so as to keep the limb in a proper position. Stromeyer recommends German surgeons to perform resection in those cases in which, although the joint disease is in process of cure, the limb is likely to remain useless. Here

it is useless to attempt extension with the patient under the influence of chloroform, for although the resistance of the soft parts can be overcome, the joint ends cannot be brought into a normal position, and the limb remains an unserviceable one. The resistance is extremely difficult to overcome, and excessive force is to be avoided. Fractures from gunshot wounds, compound dislocations, anchyloses of the knee in a flexed position, and caries serve as indications for the operation of resection.

The surgeon makes on each side along the posterior margin of the condyles a longitudinal incision four inches in length; these are joined by a transverse incision under the patella, which bone is excised. It is difficult to work with the saw in the exact direction, so that the osseous surfaces can be at once adapted to one another; the limb becomes straight after the resistance of the muscles, and aponeurosis has been overcome by extension during anæsthesia. In a case of osseous anchylosis the surgeon saws through the bone from before backwards, and leaves near the popliteal space, behind the wedge-shaped piece thus formed, a thin bridge of bone, which is broken down by extending the limb. The soft parts should never be detached from the bones to a greater extent than is necessary for the easy working of the saw. If extension of the limb be difficult after resection tenotomy should be performed. The object always in view during the after-treatment is to bring about osseous anchylosis. The wound should be plugged after the operation to prevent parenchymatous after bleeding. Esmarch's iron splint is the most suitable apparatus; and in an advanced stage of healing, leathern splints or a moveable gummed bandage. Country air and good nursing are requisite conditions for success. After the cure the utility of the anchylosed limb may be very great; if firm union fails to take place, amputation must in the majority of cases be resorted to. The mortality in 200 recent cases of resection of the knee was 30—60 per cent.

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## Art. 223.—*On Resection of the Knee-Joint.*

(*Pitha u. Billroth, Handbuch der Allgemeinen und Speciellen Chirurgie*, Bd. iv. Abth. 1, Heft. 2, p. 293, 1868; *Schmidt's Jahrbücher*, Rev. 1, 1869.)

Resection of the knee-joint is indicated, or at least justified, in cases of fracture from gunshot injuries, with comminution of the condyles and with projectiles remaining in the knee; also in cases of caries and necrosis of the epiphyses, of slight forms of tumor albus, and of true anchylosis in which no other measure was formerly open to the surgeon except amputation either at or above the knee. The operation, which is undoubtedly a valuable conservative measure, forms in and by itself no very severe proceeding, and is not relatively difficult in its performance; nevertheless, according to experience hitherto, it promises less chance of successful results than resection of other joints, from the facts that it is so frequently followed by persistent suppuration and exhaustion, and that the curative processes are much prolonged, and, in many instances, very imperfect in their result; a faulty and useless limb being often all that is obtained after an extremely arduous, wearisome, and painful after-treatment. In children, with whom the chances are the best, the

growth of the extremity is often impaired, so that the shortening of the leg increases year by year, and the limb which has been saved with so much trouble ultimately becomes worthless. The strikingly good results of resection in England seem to depend in a great measure upon the fact that surgeons there have frequent and early recourse to the operation in cases where German surgeons believe that the chances of cure without an operation ought to be favoured. The question as to which of these two lines of practice is the better has not yet been definitely solved, at least an abundance of indications for the operation, in opposition to the terminal results of spontaneous cure, has not yet been in any way justified.

Professor von Pitha recommends Langenbeck's longitudinal incision by the side of the patella; this plan does not materially increase the difficulties of the operation, and on the other hand favours considerably the process of recovery. The patella is extirpated. The most suitable apparatus for confining the limb is a perforated gypsum splint, or the surgeon may apply Esmarch's apparatus, or again a splint made of block tin fitted to the thigh and leg, and furnished with a foot-board; the portion of this splint which corresponds to the knee should be moveable. The leg must form with the thigh a very obtuse angle, open behind. The wound in the integument is lightly covered by charpie, and left open for three or four hours, on account of any after hæmorrhage. It is advisable to inject morphia subcutaneously after the narcotic influence of chloroform has passed off. Suture of the bones is the safest measure to carry out in order to oppose dislocation of the osseous fragments. A single metallic suture is passed between the bones at a spot corresponding to the external wound, and is allowed to remain for three or four weeks until union at the osseous surfaces has taken place. A lax fibrous union depends upon want of power in the limb, and necessitates an external mechanical support.

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## Art. 224.—*On the Condition of the Limb after Excision of the Knee-Joint, in Four Cases.*

By Henry Smith, F.R.C.S., Assistant-Surgeon to King's College Hospital.

(*Medical Times and Gazette*, December 5, 1868.)

In the first case, a man, now thirty years of age, in perfect health, presented himself at King's College Hospital on Saturday, Nov. 7th. He was recognised as one who had been operated on twelve years previously by Sir William Fergusson for strumous degeneration of the synovial membrane, and ulceration of the cartilages of the knee-joint. On examination, the present condition of the limb is as follows:—It is perfectly straight and well developed, the calf of the limb being nearly as big as that of the other; there is firm bony union at the knee, and the shortening of the limb is so slight that it is scarcely perceptible. This man's agility is wonderful, and as a proof of it he brought with him to the hospital a handsome bat, which had been presented to him as a reward for his great superiority and success in cricket.

The second case is that of a man, aged twenty-three, upon whom Mr. Smith operated in August, 1867, for disease of the knee-joint of many years' standing, and which had resulted in the production of a deformed, withered, and totally useless limb. Mr. Smith showed this man to the Fellows of the Medical Society of London in the October following, and at this date the union was not firm, and the patient's movements were difficult. An opinion was expressed at the meeting that most likely the man would get tired of his limb, and request its removal.

This same man presented himself to Mr. Smith at King's College Hospital in October last, fourteen months after the operation, and the following was the condition observed:—The health of the man is excellent, the limb quite straight, and the union at the site of operation perfectly firm and osseous. The leg is about an inch and a half shorter than the other, and is well developed. The man could move about with the greatest agility without the aid of a stick, and expressed himself as very well pleased with the result.

The third case is that of a boy, aged twelve, upon whom Mr. Smith operated in May, 1867. An especial feature of interest obtained here in the circumstance that the boy had been an inmate of one of our larger hospitals, and under the care of a surgeon in whose sight excision of the knee does not find favour, and who is a strong advocate of a reliance upon the resources of nature to bring about a cure. These views were carried out in this instance until the patience of the surgeon became exhausted, and amputation of the thigh was recommended. When Mr. Smith saw the boy, interference was clearly required, but he never met with a case better suited for excision. Mr. Smith was enabled to complete the operation, and yet take away but a very small section of the joint ends of the bones. In course of time this boy left the hospital with only a fibrous union. On Nov. 10th the condition of the boy was as follows:—He was in robust health, and could move about with the greatest agility without the use of any support. This limb was apparently as long as that on the other side, but in reality about an inch shorter. It was not quite straight, but slightly bowed out. The union at the site of operation was osseous and quite firm. Limb generally well developed.

The fourth case is that of a girl, aged fourteen, on whom Mr. Smith operated just before Christmas last. She had extensive disease of the synovial membrane, and a very contracted and deformed limb. Mr. Smith was obliged to remove more than the usual thickness of bone in order to get good apposition of the parts. Her health was in a wretched state. The present condition of the girl is as follows:—She is in excellent health, and can walk well without assistance. The limb is well developed, slightly bowed out; union at the site of operation osseous and firm. Leg on operated side is shorter than the other by one inch and a quarter.

From the results of these four cases but one conclusion, Mr. Smith writes, can be arrived at—viz., that in each instance the patient has been restored to health, and that a useful limb has been preserved to its possessor; and these two results are what the surgeon seeks for in the performance of excision.

## Art. 225.—*On Resection of the Tibio-Tarsal Articulation.*

By E. Spillmann, M.D.

(*Archives Générales de Médecine*, No. 2, 1869.)

Out of sixty-eight cases collected by Dr. Spillmann, in which the ankle-joint was resected for compound dislocations or compound fractures, there were fifteen unsuccessful: of these eleven resulted in death after the operation, two in death after consecutive amputation, and two in recovery after amputation. The causes of death in the thirteen cases were gangrene, purulent infection, and purulent deposits. Mortality 18 per cent.

Tables of seventy-three cases in which the operation was performed for pathological affections of the ankle-joint show that the proportion of cures to unsuccessful and doubtful cases was as fifty to twenty-three. There were twelve deaths resulting from the resection, and two from consecutive amputation. The number of consecutive amputations was eight, in three of these there was a successful termination; the result of the remaining three is not indicated.

Dr. Spillmann concludes his memoir with the following propositions:—

1. Partial or total resections on account of caries, necrosis, or prolonged suppuration, constitute excellent operations, when these affections are the secondary results of a wound opening into the joint.

2. Resections for pathological affections properly so called, are, on the other hand, very hazardous, not so much by reason of the direct mortality which they occasion, as from the numerous relapses which follow the operations.

3. An exception is to be made in favour of partial resection of the fibula, which generally escapes a relapse.

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## Art. 226.—*On Gonorrhœal Sciatica.**

By M. Al. Fournier.

(*Gazette Hebdomadaire*, No. 48, 1868.)

There are still many obscure points in the etiology of sciatica, and numerous cases occur in which the origin of the evil cannot be discovered. Among these forms of sciatica from causes hitherto undetermined, there is one which, according to the clinical observations of M. Fournier, is developed in subjects affected with an urethral discharge, derived from the gonorrhœal influence, and in short, dependent upon the morbid state of the urethra.

Inexplicable as this may seem, it is nevertheless certain that it is a fact. The existence of gonorrhœal sciatica, and that the affection is not merely a coincidence in the same subject of two maladies, one of which is frequent in occurrence, and the other extremely common, are established by M. Fournier in the following arguments:—

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* Read before the Société Médicale des Hôpitaux, October 23, 1868.

First argument: *Sciatica figures in the number of the manifestations of gonorrhœal rheumatism.*—How are we to regard sciatica arising in the middle of an attack of rheumatism of gonorrhœal origin? As, for example, a case of rheumatism of the gonorrhœal type, characterized by joint affections, tendinous synovites, ocular phlegmasiæ passing from one eye to the other, erratic pains, &c. To these symptoms is added a sciatica, coming on without any appreciable cause, and without any external provocation, which lasts for a few days and then vanishes.

Two hypotheses may be brought forward to explain the cause and the nature of this sciatica: the affection is either an intercurrent and accidental incident, in short, a coincidence, or rather it is one of the symptoms and of the manifestations of the parent affection, with which it is bound up in the same rank with the joint symptoms, the synovites, the ophthalmiæ, &c.

The second hypothesis is, according to M. Fournier, the more simple and the more rational. Several symptoms of the same order are found united in the same patient, is it not logical to attribute them to the same cause? How and why are we to cut up such a collection of symptoms and say that the joint affections, synovites and the ocular phlegmasiæ, are due to gonorrhœal rheumatism, but the sciatica springs from another cause? And again, what will this other cause be? It is sought for in vain, and nothing is found which can explain the development of this special phenomenon of sciatica, but that common influence which holds in dependence upon it the coincident morbid symptoms. M. Fournier thus derives the logical inference that sciatica is to be considered as an expression, in a special form, of gonorrhœal rheumatism.

M. Fournier gives two cases which demonstrate the reality of sciatica as a manifestation of gonorrhœal rheumatism. The first case was that of a man, thirty-one years of age, strong and robust, and without antecedents of rheumatism in his family, who had never himself previously had rheumatism, and who in the year 1862, after having contracted gonorrhœa for the first time, was attacked with gonorrhœal rheumatism characterized by synovitis and other joint affections. In 1863 he had a fresh clap, which was quickly accompanied by ophthalmia and an intense sciatica. The sciatica disappeared a few days before the cure of the discharge. In 1866 there was a third attack of gonorrhœa; six days after its appearance, pains commenced in the tendines Achillis and in the right knee, and these were followed by intense pleurodynia on the left side, arthritis of the left knee, and sciatica; and afterwards by hydrarthrosis of the left knee, pains in the right wrist, and conjunctivitis in the right eye; finally, by numerous rheumatic manifestations affecting various regions (articular synovites, pains near the osseous apophyses, in the muscular masses, &c.), coming on successively or simultaneously with the movements of remission and exacerbation, for a period of four months. The cessation of these symptoms coincided with the cure of the discharge. The subject of the second case was a young man, twenty-five years of age, lymphatic but with good general health, who had had three attacks of gonorrhœa, all of which were accompanied by multiple and varied rheumatic symptoms. During the third attack, in the midst of varied affections, such as double ophthalmia and pains in the different joints, there appeared a perfectly characteristic and very

intense sciatica. In addition there was observed a painful swelling of the head of the third metacarpal bone, with a rosy colouration of the integuments and stiffness of the joint.

Second argument: *Several attacks of sciatica associated with other undoubted manifestations of urethral rheumatism have been observed to manifest themselves successively in the course of several successive attacks of gonorrhœa.*—This argument seems to M. Fournier to possess great value. Here, in fact, all suspicion of coincidence ought to disappear. If the first attack of sciatica might be considered as an accidental complication, it would indeed be an abuse of chance to attribute to it again the development of the second attack. The reproduction of the same phenomenon under identical conditions is significant to the highest degree. It proves a cause producing on two occasions the same effect. And this cause is evidently the gonorrhœal influence.

M. Fournier, in support of this opinion, reports two cases of his own, and cites two given in Sir Everard Home's work on the treatment of strictures.* In these remarkable cases sciatica was developed each time during the course of successive attacks of gonorrhœa, complicated with stricture of the urethra, and did not disappear until after the cure of the stricture. According to Sir Everard Home these sciatic attacks are not so much a direct consequence of urethral stricture, as they are the result of gonorrhœal inflammation of the contracted part of the canal. This is precisely the doctrine which is maintained by M. Fournier, who believes that the sciatica as well as the arthritis, the ophthalmia, the articular inflammations, is caused in these cases by an irritation of the urethra.

Third argument: Among those subjects who are so singularly constituted that they cannot contract a gonorrhœa without being afflicted with rheumatic symptoms, *sciatica is sometimes observed to alternate in a series of attacks with rheumatic manifestations of a different order.*

A patient, for example, has been affected with three attacks of rheumatism in connexion with these consecutive attacks of gonorrhœa. In the two first attacks the symptoms attacked the joints, the synovial sheaths of the tendons, the eyes, &c., but nothing was manifested in the sciatic nerve. In the third attack, on the contrary, sciatica appeared either alone or accompanied by the other local manifestations of rheumatism.

It may be said that this attack of sciatica was not a gonorrhœal affection, and that it does not take a part in the series of symptoms of the same nature. If, in the third attack of rheumatism, argues M. Fournier, some joint-swelling had appeared instead of the sciatica, would the nature and the gonorrhœal origin of this joint-symptom have been doubted? Certainly not. But, then, why refuse to sciatica that character which would be accorded without dispute to the articular localization? Cases which prove this argument are not rare, and M. Fournier has observed several examples.

Gonorrhœal sciatica differs from ordinary sciatica in its mode of

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* *Practical Observations on the Treatment of Strictures in the Urethra.* London, 1803.

evolution. Thus the former generally commences with a sudden and instantaneous explosion, and reaches at once its *summum* of intensity; moreover, the pains which are excessive at first, soon diminish in violence, becoming moderate and tolerable, so that about the fifth, fourth, or even the third day a relative calm is established, after which, the affection, having persisted in the same condition during a longer or shorter period, definitely disappears. The total duration of the symptoms is generally short, particularly if it be compared with that of ordinary sciatica.

The diagnosis can in most instances be readily established when the sciatica appears in the midst of a series of rheumatic manifestations; but it sometimes happens that during the course of a gonorrhœa, sciatica is presented as the single and unique manifestation of urethral rheumatism. Here the diagnosis becomes more obscure; have we to do with a simple independent neurosis, or with a secondary gonorrhœal symptom? One may indeed, in cases of this kind, suppose a pure coincidence. However, gonorrhœal rheumatism is not manifested in every case by one series of symptoms; the affection may be restricted, and, as one often sees, to a single manifestation—to an articular fluxion or a tendinous phlegmasia, or an ophthalmia. In the same manner, it may affect but one nerve, and so produce a sciatica without attacking other organs or apparatus. In these cases the diagnosis will be confirmed if the patient has presented in a previous attack of clap symptoms of rheumatism, if the sciatica is not attributable to any diathetic or occasional cause, if its *début* was rapid and its height of intensity quickly attained, finally and chiefly, if it follows a rapidly decreasing march to disappear in the course of a few days.

With regard to treatment, gonorrhœal sciatica differs in a striking manner from ordinary sciatica, in the fact that it is otherwise accessible to the intervention of art. It is readily curable. Cupping and scarification has, in M. Fournier's practice, been attended with constant success. The performance of this is immediately followed by considerable relief, a second application is rarely required, and the pain is finally removing by the external application of narcotics. In conclusion, M. Fournier calls the attention of observers to a singular and but little known lesion which may in the course of gonorrhœal attacks be mistaken for sciatica. This is *acute hygroma of the ischiadic serous sac,* often associated with acute pains which are seated near the principal painful focus of sciatica, which frequently radiate, which are either continuous or marked by exacerbations, and which are exaggerated by pressure or movements. The tumour formed by the hygroma concealed in the depth of the soft parts, cannot be recognised without difficulty, and moreover, unless foreseen, is seldom sought for. Confusion in the diagnosis may readily take place, and without doubt this hygroma has often been confounded with a partial or limited sciatica. This lesion forms an addition to the manifestations of urethral rheumatism, which are already so many and so varied.

## Art. 227.—*Case of Dislocation of the Hip-Joint; Reduction without Pulleys.*

Under the care of Mr. Hulke, of the Middlesex Hospital.

(*The Lancet*, February 20.)

As is well known, the ordinary plan adopted when the head of the femur is dislocated upon the dorsum of the ilium includes the use of pulleys, by which traction is effected, whilst a perineal belt provides the counter-extending force. It was Dr. Reed, of Rochester, U.S. (according to Mr. Erichsen's *Surgery*, fifth edition, 1869), who introduced the process of "manipulation" as a means of reduction, without employing pulleys. In the following case, kindly furnished us by Mr. Norton, house-surgeon, this simple plan was immediately successful.

A woman, aged twenty-eight, was admitted into the Middlesex Hospital in July last, at midnight, with dislocation of the left hip and broken ribs, caused by a fall from a second-floor window whilst drunk. The caput femoris was plainly felt on the dorsum ilii; the thigh was rotated inwards, and flexed at a right angle, the knee resting on the other thigh just above the patella. The injured thigh was half an inch shorter, and the distance between its great trochanter and the anterior superior iliac spine one inch greater than on the uninjured side.

Complete muscular relaxation having been obtained with chloroform, the pelvis was firmly held down on the floor by a couple of assistants (the patient lying on her back on a mattress), while Mr. Hulke made traction of the thigh by a jack-towel clove-hitched above the knee, at first in a vertical direction at right angles to the line of the trunk, and then flexing and adducting the thigh on the abdomen, the head of the bone slipped into the socket with a distinct snap.

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## Art. 228.—*On Excision of the Hip-Joint.*

By John Ashhurst, Jun., M.D.

(*Pennsylvania Hospital Reports*, 1869.)

1. "Excision of the hip-joint, for hip disease, has been performed more than twice as often in males as in females; a fact which can only be accounted for by supposing the disease to be more frequent among the former, and therefore probably generally originating from local external causes, to which the female sex is naturally less exposed than the male. Hence the numerical argument, *quantum valeat*, is in favour of the local origin theory of hip disease.

2. "The sex of the patient exercises little or no influence upon the success of hip-joint excision.

3. "The age of the patient, on the other hand, exercises a very important influence upon the success of the operation; the mortality rising from 25 per cent. between the ages of five and ten (the most favourable period), to 25 per cent. when the patient is more than thirty years old.

4. "The operation of excision of the hip has been performed with

about equal frequency on either side of the body; it seems to have been rather more successful on the left side than on the right.

5. "Total excision has been at least as successful an operation as partial excision; hence the acetabulum should be freely dealt with, if its condition requires gouging.

6. "The preserved limb is known to have been useful in about one-third of the entire number of cases.

7. "In only one-fourth of the fatal cases has the operation itself been chargeable with the patient's death; of the various sequelæ of the operation, pyæmia has caused death more frequently than any other.

8. "The *immediate* risks of hip-joint excision are not as great as those of many other capital operations; only one-eighth of the whole number of cases having died within the first month.

9. "Amputation may occasionally be resorted to with advantage, when it becomes probable that an excision of the hip-joint is not about to be successful; and in some rare cases it is probable that hip-joint amputation might properly be proposed as a primary operation for the treatment of hip disease.

10. "Finally, excision of the hip-joint is to be recommended in cases of hip-disease *in children*, where there is no reasonable prospect of a recovery under the ordinary modes of treatment. When the operation becomes necessary, it should of course be performed without delay; but in the case of this, as in that of every other important surgical procedure, the question of opportunity must be left to the judgment of the surgeon in each individual instance."

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## Art. 229.—*On the Indications and Contra-indications for Resection of the Hip-Joint in Cases of Caries.*

By R. R. Good, M.D.

(*De la Resection de l'Articulation Coxo-fémorale pour Carie*, Paris, 1869.)

1. *Favourable indications.*—The indications favouring the success of resection of the coxo-femoral joint are less numerous than the contra-indications; we will indicate summarily those which are the most plausible.

In the first place, it is proper to mention the absence of all organic disease, and the absence of any diathesic condition hereditary or acquired.

The duration of the disease ought to be taken into account; if it has been of long continuance, the patient, however robust he may have been at its commencement, will be worn out by insomnia, pain, the prolonged repose, and the drain from suppuration. The nearer to the commencement of the disease the more opportune will be the period for operation, because the surgeon has then a chance of finding more energy in the patient's struggles for recovery. One ought to intervene when the articular abscess, opened externally, leaves behind it persistent fistulæ.

The restriction of the disease to the head of the femur would be a good indication, if the determination of this point were always possible.

But all that has been written on the seat of fistulæ, in relation to the determination of the diseased parts of the osseous structures, is not true in all cases; and in diagnosis the surgeon can often depend but upon the duration of the disease, the head of the femur being the only part affected at the early periods, and the implication of the cotyloid cavity being always consecutive. In a certain number of cases of fistulæ, multiplicity will lead one to suspect the extension of the disease to the iliac bone, if certainty cannot be acquired by a rigorous determination of the lesions by means of metallic sounds introduced into the fistulous passages.

Luxation of the hip is another favourable indication, post-mortem examinations having demonstrated that in cases of this kind caries had not attacked the cotyloid cavity which remained free from the head of the femur.

The most favourable age for the operation is from three to twelve years.

The progress of the disease may itself furnish indications. A slow progress is a favourable indication, whilst operations applied in cases of rapid coxalgia have nearly always had a lamentable termination.

The degree of acuteness of the lesion ought to be taken into consideration. Before operating it is proper to wait until the disease has passed into a chronic state; nothing should be attempted so long as the fever maintains some acuteness, and the periarticular soft parts are red, swollen, and very tender.

Hasty separation of the head of the femur is also a good condition for the operation, for this, in certain cases, has been capable of uniting with the cotyloid cavity, and preventing the invasion of the iliac bone by the disease.

2. *Unfavourable conditions.*—Phthisis ought to be placed at the head of the diseases the complication of which contra-indicates resection. The majority of surgeons have always been unwilling to operate upon patients presenting from the commencement traces of pulmonary tubercles. All authorities side in this opinion, which, moreover, is ancient. Observation has, in fact, taught that operations so severe as that of resection of the hip precipitate the march of phthisis, and induce its development in many cases in which it had not previously existed. Still, a certain number of English surgeons, Holmes, Erichsen, &c., profess that the cure of a lesion arrests in the majority of cases the march of pulmonary phthisis by removing its source which exists in the focus of suppuration and in the resulting exhaustion. Velpeau had advanced these ideas a long time previously; he had noticed cases in which, by removing a centre of suppuration seated in osseous tissue, he had at the same time arrested early but undeniable pulmonary lesions. It is necessary to remark, however, that he never dreamt of performing an operation of any gravity upon a subject affected with advanced phthisis. Recently we have learnt that Prof. Richet, on the occasion of an operation for resection of the knee performed on a young girl who had suffered from hæmoptysis which seemed to have been complementary to the menstrual discharge, revived the ideas of his old master. According to Richet, as to Velpeau, centres of osseous suppuration might, under conditions the action of which escapes us, induce the carrying of molecular particles into the lungs and provoke lesions of

these organs. Cases have been observed by Richet in which the cure of the peripheric lesion, the cause of these pulmonary disorders, was followed by their complete disappearance.

Scrofula is an express contra-indication to any attempts at operation. Being the expression of a general condition it is not arrested in its progress by the bistoury; if cured at one spot it relapses at another and with greater gravity, as the suppuration which necessarily accompanies all bloody operations, by debilitating the patient, will render him more liable to the manifestations of the diathesis. Some few surgeons, among whom may be mentioned Bauer and Sayre, do not consider scrofula so much as a cause of coxalgia. Taking the cause for the effect, they regard scrofula as a consequence of the articular lesion, and not as its active cause. With these surgeons traumatism plays the chief part in the malady. To admit these mechanical theories would be, in our opinion, to ignore completely the results of clinical experience. We think that to attempt resection on a scrofulous subject is to perform a very lamentable action. The most to be allowed with patients of this kind is the extraction of sequestra from fistulous openings or the modification of the surfaces of the wound, so as to diminish the abundance of the suppuration, and thus to prolong the life of the patients; in no case would it be proper to attempt a radical operation.

Exhaustion of the patient is also an express contra-indication. One or two cases of successful operations performed upon exhausted subjects may be cited, but it would be dangerous to depend upon an exceptional instance in attempting an operation almost constantly fatal under such conditions. The patient does not possess the necessary strength for bearing up against a renewed and increased suppuration, or for the reparation of tissues. It is never right to wait until this advanced period before attempting an operation; and this precept, it seems to us, has been disregarded in France by the majority of those who have performed resection of the hip, and we have no doubt that this is the cause of their want of success and of the resulting disfavour into which the operation has fallen. We are unable to adopt the opinion of Gosselin and Larrey, that the operation is especially indicated in the adult. The researches that we have made demonstrate that coxo-femoral resection, often followed by success up to the age of twelve years, has the less chance of success the more the period of its performance is advanced beyond this epoch of life. The surgeon cannot depend upon the exceptional case reported by Szcymanowski, who operated successfully on a patient aged fifty-eight years. A great extent of osseous lesions is also a contra-indication in the majority of cases. It will be impossible to destroy the whole focus of the caries, and to perform an incomplete operation is worse than doing nothing, for we do not share in the views of Bauer that caries of the cotyloid cavity will heal spontaneously after resection of the head of the femur. For us resection of the cotyloid cavity is the more indispensable, as the carious portion frequently masks an abscess of the pelvis. Implication of the cotyloid cavity is not, however, a contra-indication to the operation, as has been thought for a long time, and as many French surgeons still suppose; statistics prove that patients who had presented this lesion of the cotyloid cavity have completely recovered, and the number of cases is sufficiently great to

enable one to form a decided opinion. But if the lesion be not arrested here, and if it have extended still farther to the pelvis, what will be the conduct of the surgeon? Erichsen has resected the ischium, and has had the good fortune to cure his patient; Sayre with like results has resected the pubis; and Syme has removed those two osseous portions from the same patient, who survived. But it would be imprudent to count upon success in analogous cases, and preferable not to operate if one cannot discover the extent of the disorders.

What is to be done when the caries extends towards the body of the femur? Mr. Gant removed five and a half inches of the upper part of this bone, and Spencer eight and a half inches, preserving at the same time the periosteum. Both patients recovered. But as a rule, if the femur be found affected over a great extent, it will be better to follow the example of Barnes and Henry Lee, who finished the operation by disarticulation.

Abscesses of the periarticular soft parts and purulent collections are not contra-indications in cases in which the inflammation is of slight intensity, for here the operation is the sole chance one has of giving a free exit to the pus and preventing inevitable death.

Abscess of the pelvis symptomatic of caries of the cotyloid cavity, which may form before as well as after perforation of the acetabulum, is not a contra-indication to the operation. Clinical reports furnish us with many examples of recovery under these circumstances. The diagnosis of pelvic abscesses is difficult before the operation; they remain enclosed within the pelvis and may open into the canals which traverse this osseous girdle, they never follow, however, the march of abscesses which are symptomatic of morbid changes of the psoas muscle or the vertebræ, which follow the course of the psoas muscle as far as its inferior insertion, or rather the sheath of the femoral vessels and that of the sciatic nerve. We have said before that implication of the acetabulum is not, in our opinion, a contra-indication. Patients in whom this cavity being in a state of disease has been scraped have made very good recoveries. But those surgeons who, following the proposition of Bauer, have been unwilling to destroy by any means the carious portions of this portion of the skeleton, have had to deal with persistent fistulæ, and have lost their patients. The pus taking origin in the cotyloid cavity or only from the inner surface of the side of the pelvis, accumulates between this bone and the outer surface of the aponeurosis of the internal obturator muscle; from thence it flows into the ischio-rectal fossa external to the levator ani muscle and anus, and finally opens near this natural orifice, constituting a variety of anal fistula; at other times the pus perforating the levator ani opens into the rectum and is expelled with the fæces. The pus may find its way again into the urethral canal, as was observed in a case reported by M. Marzolin. It has also been seen to empty itself into the bladder and vagina. If, on the other hand, instead of flowing internally, the pus gains the superficial parts in order to open externally, it generally reaches the anterior or inferior iliac spaces. Mr. Hancock was among the first who directed attention to this point. He explained this point of election for the opening of the abscess by the position which the patients take during the evolution of coxalgia. By introducing a curved probe

through this opening, one may easily reach behind and below the diseased acetabulum and feel crepitation. If, on the other hand, the abscess be symptomatic of a morbid change in the psoas, the probe can be passed only backwards and upwards in the direction of this muscle.

What should be the conduct of the surgeon when he has succeeded through different diagnostic means in making out perforation of the acetabulum and the existence of an abscess in the pelvis? If the pus infiltrated within the pelvis exposes the patient to peritonitis, as has been observed several times, it is better in our opinion to operate as Hancock did in a case which resulted in complete success. Several American and English surgeons have followed his example, and with good results. Barwell, in 1865, operated upon four patients presenting these serious complications, and out of this number had three with excellent results. These results serve for the encouragement of all those who wish to proceed in his footsteps.

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## Art. 230.—*On the Conservative Treatment of Gunshot Fractures of the Femur.*

### By Dr. Gritti.

(*Annali Universali di Medicina*, September; and *British and Foreign Med.-Chir. Review*, January.)

In a letter addressed to Professor Palasciano, Signor Gritti, Surgeon-in-chief of the Milan Hospital, adduces the experience of the late Italian war as corroborative of his views of the value of conservative surgery in gunshot fracture of the femur contained in a work on that subject published in 1866. This additional material consists of 49 cases observed carefully during the war of 1866. Other cases must also have occurred of which no notes have been procurable, for as the wounded amounted to 3619, the proportion of 2 per cent. of cases of fractured femur, exhibited by former statistics, would bring the total number of cases up to about 70. However this may be, here are the results observed in these 49 cases. In 1 the head of the femur was fractured and the patient recovered; in 5 the trochanters were fractured, with 5 recoveries; in 6 the upper third of the shaft of the bone was fractured, all recovering; in 15 its middle third, with 4 deaths and 11 recoveries; in 6 its lower third, with 5 recoveries and 1 death; in 11 cases the condyles were fractured, with 2 deaths and 9 recoveries; in 4 cases, all recovering, the seat of fracture was not specified. Thus, of the 49 cases, 41 recovered and 8 died. So favourable a result calls for some detailed account, and this the author furnishes in a tabular statement of the particulars of each case as regards its treatment. Summing this up, he reports that in 30 of these cases, in which the conservative treatment was pursued throughout, there were 2 deaths and 28 recoveries; in 12, in which conservative treatment had to be supplemented by amputation, 6 died and 6 recovered; and 7 cases, in which amputation within 24 hours was performed, all recovered. Thus, while of 42 cases treated conservatively, 28 recovered, all those did so in which immediate amputation was performed. Dr. Gritti, however, notwithstanding

the remarkable success attending this operation, believes that it should be confined within narrow and precise limits, and that its success on this occasion was much owing to the exceptional circumstances under which it was performed. The patients were treated in small hospitals, in a healthy and mountainous locality, and were furnished with a nutritious diet. The 42 cases treated conservatively, with and without consecutive amputation, furnished a minimum mortality of 19·04 per cent.; and a more intelligent application of the principles of this treatment will be followed by still more favourable results. The dispersion of patients which acted so beneficially in the Austrian and Prussian armies was not easy of accomplishment in Italy, where the patients requiring prolonged treatment were consigned to overcrowded hospitals situated in the centres of towns, and often fell victims to typhus or pyæmia. The extraction of foreign bodies was not performed so effectually as it ought to have been, while the means of transport of the wounded were defective.

After adverting to some of the cases in particular, Signor Gritti concludes by saying that the clinical facts observed during this war confirm the value of the conservative treatment of fracture of the femur, especially when this takes place at its upper part, which is just the contrary to what happens in amputation, this failing more and more the higher up the limb it is employed at. But in order to succeed in conservative surgery the surgeon must be thoroughly indoctrinated with its principles. His exploration of the wound also ought to be prompt and complete, so that he may at once decide whether conservative or demolitionary treatment should be resorted to. If the first is decided upon he should remove from the wound, making dilating incisions for the purpose if necessary, all foreign bodies and splinters; and then place the limb in an apparatus which at once secures its immobility and reduction, and allows of easy access to the wound. Had the surgeons employed in 1866 more exactly fulfilled these conditions they probably would have saved some lives by performing immediate amputation, while, in other cases, they might have avoided the too tardy extraction of foreign bodies, the development of phlegmonous and profuse suppuration, and perhaps some of the consecutive amputations.

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## Art. 231.—*In-Growing Toe-Nail: Hospital Out-Patient Practice.*

(*The Lancet*, May 29.)

Subjoined are notes upon the treatment of in-growing toe-nail from five well-known hospital surgeons, whose opinions will be read with interest and instruction.

*King's College Hospital.*—In slight cases of in-growing toe-nail—an affection which in the great majority of instances has its seat in the great toe only, and is caused by the lateral compression of the toe by the boot—Mr. Wood scrapes down the nail on the affected side until it is thin and yielding, like paper. The thickened skin overlapping the nail is then pared off with a sharp thin-bladed knife until it is close

down to the raw, but not so far as to draw blood. A pointed stick of the nitrate of silver is then applied lightly to the painful ulcerated chink, and a small piece of lint, rolled up so as to fit into the groove of the nail, is dipped in glycerine and applied by means of a thin strip of adhesive plaster or small india-rubber band.

In cases where the mischief is the result of hypertrophy of the thick skin forming the lateral margin of the groove, and without any deformity in the shape or thickness of the nail itself, Mr. Wood pares off skin, under ether spray, to a level with the nail, and then applies the pressure as before by means of a small roll of lint. If the toe-nail itself be broad, distorted, irregular, and bent laterally by the pressure, the best plan is to remove a triangular portion of the nail itself in the middle line, the angle reaching down to the centre of the nail. This allows the nail to fold up and accommodate itself to the limited space without digging in at the edges.

But if there be much ulceration, irritation, and distorted growth at the matrix of the nail itself—which in long-continued cases, and in scrofulous or syphilitic conditions of the system, is sure, sooner or later, to ensue,—the only plan from which effective relief can be obtained is by the time-honoured but excruciating process of division into the quick, down the nail itself at the inner third, and evulsion of the affected part of the lunula from the matrix. In doing so, it is important to get all that part of the root away entire, as a small portion growing up with an irregular angle will cause a speedy return of the disease. In all cases it is important also so to regulate and ease the boot, during the renovation of the nail, that the skin should not again overlap and be forced down upon the edge, which always induces a return of the disease.

*St. Mary's Hospital.*—Mr. Norton never performs any operation in the treatment of in-growing nails. He applies, in the following manner, a solution of liquor potassæ (two drachms to one ounce). A piece of cotton-wool is saturated with the solution, and pressed gently down between the upper surface of the nail and the soft tissues, which latter are usually in the form of a fungous mass of granulations. The solution permeates the substance of the nail, and softens and pulpifies the superficial cells. The wool is kept continually moist with the lotion, and the softened nail-tissue is wiped away each morning. The nail in a few days becomes thin and flexible, and if desired, can now be pared away without pain, or it may be allowed to remain for a few days longer, when it becomes entirely removed by the solution. Mr. Norton considers it most essential in the treatment that the lotion be continued until all ulceration has disappeared, otherwise the too early hardening of the epithelium becomes again a source of irritation, and promotes a return of the disease, or rather prevents a cure from being effected.

Of the several cases treated by this method during the past two years, one of whom suffered from in-growing nails on both great and both second toes, not one patient has returned to the hospital, and, therefore, Mr. Norton believes that in no case has there been a recurrence of the affection.

*St. Thomas's Hospital.*—Mr. Croft finds that, commonly, patients

suffering from this disease do not come under his notice until the affection has been some time in progress. In such cases it is his practice to adopt the radical cure advocated by Dupuytren, which is to divide the nail lengthways, and turn out the in-growing half of the nail. In all but the hardiest patients he employs the ether spray to benumb the toe. He prefers to cut down the centre of the nail with a strong short scalpel, and then to raise the half-nail to be removed, by forceps (using the latter as a wedge), before plucking it from the matrix. In other cases he slits up the nail with scissors. He prefers this radical plan of treatment in advanced cases, because it saves the time of both the patient and surgeon, and because other plans include, besides time, frequent skilled dressings, of which poor people are rarely capable. In an early stage, Mr. Croft cuts out the in-growing corner of the nail, cauterizes the granulations deeply with nitrate of silver, places a small pad of lint on the cauterized spot, and then, by means of a long narrow strip of plaster winding round the toe from the unaffected side, fixes the pad firmly in its place, at the same time directing its pressure *from* the nail. Under this treatment, well carried out, he finds cicatrization soon takes place. Absolute rest is enjoined. The nail requires to be kept carefully trimmed.

*University College Hospital.*—Mr. Christopher Heath has never seen any good result from paring the centre of the nail, or applying caustic to the exuberant granulations overlying its margins. He has always found the simplest and most satisfactory method of treatment to be, to take a narrow slip of the nail away with the scissors and forceps, taking care to extract the whole depth of the nail, which is not always easy owing to the sodden condition in which the tissue has been kept for a length of time, by which it is rendered very friable. When the edge of nail thus extracted is examined, it almost always presents a rough serrated margin, and it is this which causes the irritation. After the removal of the source of irritation the use of careful dressing, with lint gently pressed down by the side of the nail, is necessary to repress the granulations, and the use of a lotion of nitrate of silver or sulphate of copper (two grains to the ounce) has been found very advantageous. Mr. Heath finds it necessary to warn patients who have suffered from in-growing nail to wear wide-toed boots, and to keep the sulcus between the nail and the flesh clear of epithelium. They should be careful also to apply for relief the moment they feel uneasiness from the nail, when a perfectly painless removal of a small portion of the nail prevents further mischief.

In inveterate cases, where the nail and toe are deformed, the former being very much in-curved, Mr. Heath recommends the removal of a slip of nail on each side, and the destruction of the corresponding portions of matrix, under chloroform, either by removal with the scalpel, or the application of the actual cautery. This lays the patient up for a few days, but effects a permanent cure. Mr. Heath believes that it is never necessary to remove the entire nail, by splitting and evulsion, as is often recommended.

*Westminster Hospital.*—Mr. Francis Mason has had under his observation at this hospital during the last few months an unusually large number of cases of in-growing toe-nail. Mr. Mason believes that the

plan ordinarily recommended of cutting the toe-nails as we do the finger-nails—that is, of rounding their corners—often induces the condition it is intended to obviate. He has generally found that the so-called in-growing toe-nail has been primarily caused by injury in trimming the nail. Too much of the corners is removed, and a sensitive and occasionally a bleeding surface is left. The patient will soon after perhaps wear a tight boot, or possibly may take a long walk. In the act of walking, the tender surface is pressed up against the slowly-growing nail, causing increased irritation, and giving rise to those painful granulations invariably seen, in different degrees, in such cases. Mr. Mason therefore advises that the free edge of the toe-nail should be cut square. Respecting the treatment of in-growing toe-nail, the plan which Mr. Mason has most confidence in is this:—A sharp-pointed stick of solid nitrate of silver is applied with some vigour to the base or under-surface of the painful granulations, and a small piece of dry lint, or lint dipped in black mercury lotion, is then carefully inserted, and the whole toe surrounded with water dressing. An astringent or other lotion, according to circumstances, may be subsequently employed. The highly sensitive surface is thus destroyed, and the patient is enabled to attend to his business in comparative comfort. Such a plan of treatment has been found uniformly successful in Mr. Mason's hands, and he believes that occasional apparent failures are due to the method not being thoroughly carried out. It should be remembered that it is useless merely to touch the surface of the granulations with the caustic; the base is the part to be attacked. If the operation be efficiently performed, it is doubtless attended with considerable pain for the moment; but the pain is reduced to a minimum by the use of the ether spray, and especially if the caustic be well pointed, instead of being, as so often happens, broad or angular at the extremity. Evulsion of the nail is seldom required for this condition, being more suitable—indeed necessary, combined sometimes with the free application of the strong nitric acid—in cases of disease of the matrix, questionably entitled "onychia maligna," which is not unfrequently met with on the fingers of unhealthy and ill-fed children.

# PART III.—MIDWIFERY.

## MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

### (A) CONCERNING PREGNANCY AND PARTURITION.

### ART. 232.—*On the Mask of Pregnant Women: Ephelis.*

By M. D. JEANNIN.

(*Gazette Hebdomadaire*, No. 47, 1868.)

*Quæ utero gerunt in facie maculum habent quam* ἐφηλὶν *vocant.* Since this remark of Hippocrates, the word ephelis has often been used to designate the particular tint with which the face of some pregnant women is spotted. Unfortunately this was not the only application of the name. Hippocrates had already described under the same title of ephelides, the spots produced by the action of the sun; and at a later period pathologists gave this name to all the cutaneous colourations attributed rightly or wrongly to luminous or calorific rays. The introduction of the term *hepatic spots*, and the distinctions made by Alibert, did not elucidate this matter. The word chloasma was then brought prominently forwards; distinction was made between the chloasma of pregnant women and the cachectic chloasma; and this latter term, by the irregular applications which were made of it, contributed in its turn to maintain the confusion of tongues. The discovery of epidermophytes excited the hope that light had finally been cast upon the wide field of dermatoses; and it has done so with regard to a certain number of questions, but as yet has not added very much to the chapter of the cutaneous affections of women. M. Bazin, and many others with him, consider the mask as an epidermic lesion due to the presence of the *microsporon furfur*. M. Cazenave looks upon it as an ephelide, that is to say, a pigmentary alteration. M. Hardy, less exclusive and probably more just in his appreciation, proposes that the affection may be sometimes an ephelide, at others a parasitic affection.

Parasitic or not, how is the formation of the mask to be explained?—how can he explain its disappearance after delivery?—its continuation for a shorter or longer period afterwards, or even its reappearance when the female is not again pregnant? The partisans of the parasitic theory reply that the fungus, which had found favourable conditions for its development, does not fail to disappear when those conditions exist no longer. They may add that the fungus will reappear whenever the

favourable conditions are renewed, &c. All this explains nothing, for what are these conditions? or, in default of a peremptory explanation, what is the morbid condition to which the affection can be attributed in cases where pregnancy does not exist? What is the function the disturbance or suspension of which predisposes to chloasma, or at least coincides with it? "One has observed," says M. Rayer, "women who have been thus affected for several weeks; when the tint has been intensified at the menstrual epochs, then these spots arise and disappear without sensible desquamation of the epidermis. Several pathologists have designated, under the name of chloasma gravidarum and of chloasma amenorrhœa, similar spots, the appearance of which coincides with the appearance and the suppression of the menses." Here we have an observed fact,—disturbed or suppressed menstruation.

In support of this fact M. Jeannin has published the following observations, which demonstrate, he hopes, that there exists a close relation between menstrual disturbances and the pathological colouration which is called *the mask of pregnant women*.

In order to specify directly the various circumstances in which the mask has been met with, M. Jeannin has distributed the cases in a certain number of series. One or two typical cases are reported of each particular class, and the number then given of the analogous cases which M. Jeannin has observed. In his enumeration of facts the author proceeds from simple to compound cases, from the frequent instances in which the relation between the mask and the state of the menses is evident, to those in which this relation seems to be less striking.

The following are the conditions that have been observed by M. Jeannin, and are illustrated by cases in his contribution.

1. Evolution of the mask during the pregnancy of a woman who was favourably delivered and did not suckle her child, and its rapid removal at the return of the menstrual epochs, two months after the lying-in.

Of this condition thirteen cases have been observed by M. Jeannin.

2. No return of the menstrual epochs until six months after delivery in a woman who did not suckle her child; persistence of the facial colouration up to the time of renewed menstruation.

Of this condition three cases have been observed.

3. After a normal delivery a woman did not suckle; at the return of the menses the mask disappeared. Some months later the menses were suppressed after mental excitement, and cure not renewed in the normal condition for eighteen months. The mask reappeared at the time of the suppression, and remained until the woman was restored to her normal condition.

Two cases observed.

4. Evolution of the mask in a woman who suckled her infant and had no menstrual return during lactation. Persistence of the colouration during this period.

Three cases observed.

5. Disappearance of the mask on the return of menstruation during lactation.

Two cases observed. M. Jeannin has been assured by many women that the freckles and milk spots have always disappeared very rapidly when menstruation returned during the period of lactation.

6. Disappearance of the mask in the course of a prolonged lactation. No return of the menses after weaning. Reappearance of the mask.

Cases in which the mask did not depend upon the pregnant condition.

7. The mask associated with amenorrhœa in women who had not conceived.

Two cases observed.

8. The mask determined by dysmenorrhœa in young girls who had not conceived.

Three cases reported.

9. Obstinate facial colouration in a woman whose menstruation was performed regularly, with very marked diminution of the mask at each menstrual epoch.

One case observed.

M. Jeannin believes that these cases will serve to establish his view that, in the majority of instances if not in all, the mask of pregnant women, considered as a parasitic affection by some, a pigmentary affection by others, and an affection both parasitic and pigmentary by a third school, is influenced by disturbances or by suspension of the menstrual discharge, that is to say, a physiological hæmorrhage.

This contribution is offered as a kind of introduction to a more considerable work which M. Jeannin hopes to publish soon, and in which he will endeavour to demonstrate by facts the curious relation which exists between a singular colouration of the face and the absence of hæmorrhage in a malady commonly and generally accompanied with serious bleeding.

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## Art. 233.—*On the Direction of the Uterus in the Adult Female.*

### By M. Panas.

(*Archives Générales de Médecine*, No. 3, 1869.)

The following have been derived by M. Panas from clinical researches made on 114 women admitted into the Hôpital de Lourcine :—

1. Anteflexion, in varying degrees, is a physiological condition in nearly half the cases.

2. An unbent uterus, that is to say, one fairly perpendicular to the plane of the inferior outlet of the pelvis, does not, when considered as a strictly physiological phenomenon, represent one-third of the cases.

3. Of all changes in the position or the direction of the uterus, those backwards, as retroversions or retroflexions, are the least common, and have on that account a greater pathological significance.

4. It is very likely that the uterus tends from the age of puberty to become straightened with increase of years.

5. Very early menstruation coincides with flexions, whilst late menstruation is met with in a straight position of the uterus.

6. In a general fashion, the menses present greater irregularity in uterine deviations than in a straight position of the organ.

7. The calling of the woman seems to exert no influence upon the direction of the uterus.

8. The inflexions and inclinations of the uterus, which may be designated as physiological, present the peculiarity that they are but slightly marked in more than one-half of the cases.

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## Art. 234.—*On Improved Methods of Inducing and Accelerating Labour.*

By Robert Barnes, M.D., Lecturer on Midwifery, &c., St. Thomas's Hospital.

(*St. George's Hospital Reports*, vol. iii.)

The conclusions from the histories of the cases related by Dr. Barnes may be summed up in these propositions:—

1. In induced premature labour the accomplishment of delivery is extremely uncertain as to time.
2. This uncertainty involves danger to the mother and child.
3. The immature condition of the uterus often entails defective contractile power and increased resistance to the passage of the child.
4. Hence it is desirable to aid the dilatation of the cervix, and to supplement the contractile power, to watch and control the course of labour throughout, and to bring it to a termination within a definite period.
5. This aid can be afforded safely and beneficially by the cervical water-dilators, and by the forceps and turning.
6. By the proper use of these accelerative means children may be saved which would otherwise in all probability perish.
7. In the management of cases of placenta prævia these accelerative means are of eminent value.
8. Labour may always be completed with safety within twenty-four hours.

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## Art. 235.—*The Induction of Premature Labour.*

By Robert Barnes, M.D. Lond., Fellow and late Examiner in Midwifery at the Royal College of Physicians; Obstetric Physician and Lecturer on Midwifery and the Diseases of Women and Children at St. Thomas's Hospital.

(*Medical Times and Gazette*, March 6.)

The plan Dr. Barnes has successfully practised for some years is the following:—First, overnight pass an elastic bougie six or seven inches into the uterus, coil up the remainder of the instrument in the vagina; this will keep it *in situ*. Next morning some uterine action will have set in. In the afternoon, at an appointed time, proceed to *accelerative* measures.

Before rupturing the membranes, adapt a binder to the abdomen, and let this be tightened, so as to keep the head in close apposition to the cervix. This will often prevent the cord from being washed down by

the rush of liquor amnii. Dilate the cervix by the medium or large bag, until the cervix will admit three or four fingers. Then rupture the membranes, and, before all the liquor amnii has escaped, introduce the dilator again, and expand until the uterus is open for the passage of the child. If the presentation is natural, if there is room, and if there are pains, leave the rest to nature, watching the progress of the labour. If these conditions are not present, and one or other is very likely to be wanting, proceed with accelerative methods—that is, to the forceps or turning, or, in cases where the passage of a live child is hopeless, to craniotomy. By pursuing this method we may predicate with great accuracy the term of the labour. Twenty-four hours in all —counting from the insertion of the bougie—should see the completion of the labour. The personal attendance of the physician during two hours is generally enough. The mode of proceeding must vary according to the conditions of the case.

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## Art. 236.—*On the Induction of Premature Labour.*

By John Brunton, M.A., M.D., L.F.P.S.G., Surgeon to the Royal Maternity Charity, London.

(*Glasgow Medical Journal*, February.)

Dr. Ramsbotham says "that the only positively sure method of inducing premature labour consists in the destruction of the integrity of the ovum. When this is effected, the process of gestation is certainly interrupted, and that of labour soon commences."

There are other methods, Dr. Brunton writes.

1. The continued administration of ergot of rye and oxytoxic agents, which act through the system on the uterus.

2. Those which act reflexly, such as galvanism, irritation and manipulation of the mammæ, which are so uncertain that they will be passed over.

3. Those which act on the cervix uteri and membranes—Barnes's dilating bags, and Simpson's tents.

4. Kiwisch's injection of warm water into the vagina.

5. Those which act on the cervix and cavity of the uterus;—Hamilton's and Simpson's. The former separates the membranes with the finger, the latter by a sound or bougie.

6. Cohen's and Simpson's method of separating the membranes at the cervix by injection of warm water.

7. Professor Lazarewitch's (of Kharkoff), which has been adopted in the cases recorded by Dr. Brunton.

It is of the utmost importance in such cases that the process of labour should go on as nearly as possible in a manner like the natural—begin, continue, and terminate "as quickly, commodiously, and inoffensively as possible to the mother and child," and at the same time, *with as little trouble as possible to the medical attendant:* in other words, that the mother should suffer as little as possible, and that the practitioner be put to just as little as possible trouble.

Now, look at the means usually employed. With one exception,

those of Simpson (separation of the membranes by the bougie), they are a source of anxiety and trouble to both patient and practitioner.

If we take the case of rupturing of the membranes, often days elapse before labour sets in, the contraction of the uterus often by its pressure killing the child, while the suffering of the mother is excessive, on account of the difficulty of dilatation of the os uteri, produced by want of nature's dilating bag.

In Professor Hamilton's method, viz., the separation of a portion of the decidua from the cervix uteri, by insinuating the finger within the os, and detaching the membranes, gently dilating at the same time, "if we have not thought it prudent to dilate at once, . . . we may repeat the dilatation in a few hours, . . . and it may be necessary, if the os be high, to *have the hand introduced into the vagina.*" This process is tedious, very painful to the mother, and often failing, has to be followed by puncture of the membranes, thereby bringing the case into the class before mentioned. In dilating with sponge tents and bags, as one dilates another has to be introduced, the patient being kept on her back—a constant repetition, alike troublesome and irksome to patient and practitioner. While, as regards the sponge tents, independently of their difficulty of insertion, they act "as a foreign body, and produce such a degree of local uneasiness and irritation as to inflict no small amount of discomfort and continous pain upon the patient."

Kiwisch's plan of injecting a continuous stream of tepid water against the cervical part of the uterus requires to be done night and morning, and usually on the "fourth or fifth day" labour supervenes—a process easy, irksome, and often failing.

Cohen's and Simpson's injections of warm water into the cervix uteri, to detach the membranes, though successful, are open to the same objections as Kiwisch's. Professor Simpson says "the injection may be repeated *twice a day or oftener*," "*but the repetition of the injection sometimes becomes irksome to the mother as well as the accoucheur.*"

Of Simpson's other method, viz., the separation of the membranes by the introduction of a sound or bougie, easy as it is to the patient, we are told, "in all cases a single introduction of the bougie will by no means suffice; like the tents and douching, it requires, in most instances, to be repeated more than once." Besides, there is danger of rupturing the membranes in the rotation of the bougie or sound.

Professor Lazarewitch, from experiments, has concluded that the fundus uteri is thickest, is most supplied with sentient nerves, and therefore is most irritable. On these grounds he is of opinion that if any condition of the uterus can be brought about which is similar to that which occurs at the full term of pregnancy (when labour sets in), such a condition will induce labour. It is well known that at the full term, when labour sets in, there is a separation of the ovum from the uterus. The membranes that hitherto were adherent become detached more and more till delivery takes place. On this account Professor Lazarewitch directs that premature separation of the membranes should be produced at that part of the uterus which is most sensitive, viz., the fundus and body, and this is accomplished by the injection of a stream of warm water between the membranes and the uterine wall, up towards the fundus uteri. The instrument he employs is a metal syringe to

which is attached an elastic canula, with a wire in it. The syringe being filled, the canula is passed well up between the membranes and uterine walls. Six ounces of warm water is to be steadily injected, taking great care that no air be introduced. The stream is directed towards the fundus, separating the membranes as it advances. That the water reaches high up is known by the expression of the patient who feels it rushing up above the navel. Of course it is necessary to diagnose the position of the placenta, in case artificial separation of the placenta should result and an awkward complication ensue. He states that the nearer the water goes to the fundus, and the greater the separation of the membranes, the sooner labour takes place. Professor Lazarewitch's narration of cases in the volume of *Obstetrical Transactions* (London) for 1867 is exceedingly good and satisfactory. These cases are twelve in number.

In the cases narrated by Dr. Brunton, the apparatus used was very simple, and the whole operation took from five to ten minutes. The apparatus consists of an ordinary india-rubber enema syringe, with central ball and valves; the bone rectum-piece being removed, a gum-elastic canula, with one opening at the end, and without a wire, of No. 10 size, is substituted. The directions for operating are—Place the patient on her left side, with the pelvis near the edge of the bed on which she lies; put a basin containing a couple of quarts of warm water (80° to 90°) conveniently and immediately below, to catch the water which flows away, and serve at the same time for injecting. Fill the syringe, by placing both extremities in the water, squeeze the ball two or three times, till all air is expelled, and then put *a small piece of beeswax* softened in the water, into the mouth of the canula (in the water), so as to prevent any of the water from running out, when the canula end is removed for introduction into the uterus. The canula can now be passed up for six or eight inches into the uterus anteriorly or posteriorly, as the case may be, and the injection commenced. Of course, it is obvious that the other end of the syringe must on no account be removed from the water, else air would pass into it and be injected. The injection is carried on till about a pint or pint and a half of the water is injected; the water first injected usually returns immediately, and is caught by the basin—the rest remains in utero for a few minutes, and gradually comes away with a slight discharge of mucus and blood. It is advisable for the patient to rest for half an hour or so, to allow the water to drain gradually away; after that, she can get up and go about her household duties.

Labour sets in directly in some cases, and in others as late as twenty-five hours after.

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## Art. 237.—*The Cæsarian Section.*

### By Robert Barnes, M.D. Lond., Examiner in Midwifery at the Royal College of Surgeons.

(*Medical Times and Gazette*, December 12, 1868.)

The most frequent condition that renders the Cæsarian section necessary is *deformity with contraction of the pelvis.* The operation is

justified whenever the contraction is such as to render it impossible to extract a dead child through the natural passages. This may be stated at 1·75″ conjugate diameter and below, at the higher limit of 1·75″ coming into competition with craniotomy. Cases may also occur in which a conjugate diameter of 2·00″ may call for Cæsarian section if the pelvis is much distorted, so that the diagonal and transverse diameters offer insufficient compensation for the narrow conjugate.

The most frequent form of distortion calling for the Cæsarian section is that which arises from osteomalacia. In malacosteon the sides of the triangle forming the brim of the pelvis are all pressed inwards, and are more or less convex. The result is that the brim is practically divided into two parts, neither of which is available for the passage of the head. Rickets also will sometimes produce a pelvis that will leave no alternative. The slipping down of the lumbar vertebræ—spondylolisthesis—into the pelvic cavity, if to any great extent, leaves no other resource. (See a memoir on this subject, *Obstetrical Transactions*, 1865, by Robert Barnes.)

The next most frequent causes are tumours of various kinds growing into the pelvis, such as bony or malignant tumours springing from the wall of the pelvis; tumours of the ovary descending into the pelvic cavity, and getting fixed there. Dr. Sadler of Barnsley has recorded a case (*Medical Times and Gazette*, 1864) in which the operation became necessary from the pelvis being filled up with an enormous *hydatid cyst* springing from the liver. Other exceptional causes, chiefly remarkable on account of their extreme rarity, have been observed. Atresia of the cervix uteri and vagina may be so extensive and unyielding that the Cæsarian section may be less hazardous than the attempt to open up a canal through the cicatricial tissues.

We are sometimes driven to the operation after having exhausted other modes of proceeding—for example, when craniotomy may have failed to deliver. It is a remark of Dr. Radford that most of these cases are progressive in their character.

The Cæsarian section, or rather gastrotomy simple, is indicated in certain cases of rupture of the uterus, when the child cannot be extracted with advantage through the pelvis.

It is resorted to when the mother has died undelivered, in the hope of rescuing the child. In this way several children have been saved. The success, of course, will depend greatly upon opening the uterus very soon after the mother's death.

The chance of preserving the child by the Cæsarian section post-mortem will be much influenced by the circumstances of the mother's death. If she dies by sudden injury, the child may survive a little longer. If she dies from hæmorrhage or rupture of the uterus, the child's death is likely to have preceded that of the mother. If she dies from phthisis or other gradually exhausting disease, the child may survive some minutes.

A condition which has several times led to the Cæsarian section has been *disease, mostly malignant, of the lower segment of the uterus*, preventing its due dilatation. In this case, the opportunity is commonly presented of inducing labour or abortion. The conditions of choice are often perplexing. If labour be induced before seven months, the prospect

of a viable child is small, but the uterus may be able to dilate sufficiently without injury. On the other hand, the life of the mother is probably doomed to be of short duration from the progress of her disease. Any injury to the diseased structures, as even by premature labour, is liable to accelerate her death. Is it not then better, both in her interest and in that of the infant, to let things go on to the natural term of gestation? She may live two or three months longer, and the child will undoubtedly have a better chance.

What is the best time to select for the operation?

1. Sometimes, of course, all choice is denied us, or the range of time offered is extremely limited. If called to a woman in labour at term, and under the conditions assumed to require the operation, it ought to be performed without delay. There is, if possible, greater reason than in conditions requiring other less formidable proceedings, to anticipate the exhaustion and local injury that follow upon protracted labour. It is a misfortune, tending fatally to compromise success, to be obliged to operate when the system is prostrated; when the structures that have to be wounded are so worn and injured that the power of reaction and repair is seriously reduced; and when the blood is deteriorated by the products of nervous and muscular overwork. It is, then, a clear indication to operate early in labour.

2. If the patient come under observation early in pregnancy, we have the double opportunity of considering the propriety of inducing labour, with the object of avoiding the operation, and of selecting the time for its performance should it be unavoidable. Is it an advantage to operate during labour?—that is, does the process of labour conduce to the success of the Cæsarian section? Amongst Continental practitioners, and indeed generally here, the Cæsarian section being regarded as a mode of delivery, it is held to be a primary indication to respect the laws of parturition, and to enlist the natural powers in our aid as much as possible. It has been therefore almost universally considered proper, in cases where the ultimate necessity of resorting to the Cæsarian section is recognised, to postpone the operation until the advent of labour. It is presumed that the epoch which nature fixes for labour is that when the most favourable conditions for the process and for the recovery are present. The whole organization is better prepared, and the uterine muscles having acquired their highest stage of development, and contraction having actually set in, it seems reasonable to anticipate that the wound made in the uterus will close better, and that the necessary changes attending delivery will be more safely carried out.

Dr. Ludwig Winckel (*Monatsschrift für Geburtskunde*, 1863), whose experience in this operation is the greatest, says the most favourable time is the end of the second stage of labour, when the membranes are ready to burst. He advises not to rupture the membranes. The escape of liquor amnii into the abdomen does no harm, and the extraction of the child is more easy if the membranes are kept entire until the moment of seizing the child.

But admitting spontaneous labour at term to be a favouring condition, may not labour induced artificially before term be an equally favourable condition? The arguments in support of the affirmative deserve attention. Dr. Braxton Hicks brought on labour a fortnight before term as

a preparation for the Cæsarian section, influenced by the opinion that by so doing the uterus, taken at a period prior to the highest degree of degeneration of its muscular fibres, would heal better. Dr. Barnes is not disposed to think that the degree of fatty change observed in the mature uterus is any impediment to reparation. There are, at any rate, too many examples of complete repair after section by the knife, and even after rupture, to admit of a doubt that the mature uterus is in a condition not unfavourable for the operation. On the other hand, it cannot be doubted that the uterus at seven or eight months is also capable of complete repair after injury. We may, then, very properly consider whether, assuming things to be equal, *quoad* the uterus, there may not be other circumstances that may rightly turn the scale in favour of premature delivery. Such, Dr. Barnes thinks, do exist. For example, if we wait for the advent of natural labour, we may be called upon to operate in the middle of the night, and surrounded by many difficulties, all concurring to lessen the prospect of success. By selecting our own time we may have daylight, the assistance of colleagues, and every appliance that may be thought useful.

The best time to select then would be as near the natural term of gestation as possible, and this may be determined approximately by taking some day in the estimated last fortnight of gestation.

Then comes the question, shall we start labour before operating, or proceed to the operation at once without exciting any preparatory action of the uterus? Dr. Barnes thinks the preponderance of reason is in favour of operating upon a uterus already in the act of labour. The *first step* will be to pass up an elastic bougie into the uterus overnight. This will excite some degree of uterine action. Next day, the hour of operating being fixed, say for 1 P.M., we may in the morning ascertain to what extent labour has proceeded. If the os uteri is not open more than enough to allow a finger to pass, it will be useful to dilate it a little more with the caoutchouc bag No. 2. This will of course induce further contraction of the uterus, and secure one most desirable object—namely, a free outlet for liquor amnii and other discharges by the natural passages.

The labour then being started thus far, we are ready for the operation. The question between general and local anæsthesia arises. In all abdominal operations the vomiting so liable to attend or follow chloroform is a serious drawback. The violent straining is apt to open the uterine wound, to stretch the abdominal wound, to destroy the "rest" which is such an important condition of repair, and thus to compromise the success of the operation. The ether spray is at least free from this objection; and possibly further experience will show that it ought to be preferred.

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## ART. 238.—*The Cæsarian Section: the Operation: the Instruments and Assistants.*

By ROBERT BARNES, M.D. Lond.

(*Medical Times and Gazette*, December 26, 1868.)

The *instruments* required are:—1. A sharp bistoury. 2. A bistoury

having a blunt end. 3. A director such as is used in ovariotomy. 4. A large probang armed with sponge. 5. Artery-forceps and ligatures in case of bleeding from the abdominal wound. 6. New sponges. 7. Ice. 8. Two powerful apparatuses for inducing local anæsthesia by congelation or chloroform. 9. Silver or silk-sutures for uterine and abdominal wounds. 10. Lint. 11. Many-tailed bandage and adhesive plaster.

*Assistants.*—Skilled assistants should stand one on each side of the patient. Another should be free to hand instruments, and assist in sponging, &c. A nurse or two to help will complete *the necessary staff.*

*Preparation.*—The bowels should be emptied by castor-oil or by enema on the morning of the operation.

### The Operation.

*Position.*—The patient is laid on a table on her back, with the head and shoulders slightly raised. The operator stands on the patient's right; an assistant stands on each side.

The *catheter* is introduced to empty the bladder. If the case be one of osteomalacia, explore for the last time carefully to ascertain if the pelvis can be opened up by dilatation by the hand. In this way, twice at least, the operation has been avoided.

In cases of great distortion, the uterus is not seldom found considerably displaced. When there is great prominence of the sacral promontory, and squatting of the chest down upon the flanks, the uterus is necessarily thrown much forward, sometimes so as to overhang the symphysis. With this there is occasionally marked lateral obliquity; and, what is less common, but still likely, a twisting of the uterus on its long axis, bringing one of its sides to look more or less forward.

It is also desirable to take note, by auscultation, of the seat of attachment of the placenta. Assistance may also be obtained by laying the hand flat on the uterus, when, if the walls are thin, a peculiar thrill or vibration marks the seat of the placenta, which is confirmed by feeling the part bulging a little, as if a segment of a smaller globe were seated on a large spheroid. This has been pointed out by Dr. Pfeiffer (*Monatsschr. f. Geburtsk.*, 1868).

The uterus is then brought into proper relation with the linea alba, so that the two incisions may correspond, unless it be found that the placenta can be avoided by cutting a little on one side of the median line. The abdominal incision is best made in the *linea alba*, extending from below the umbilicus to within about three inches of the symphysis pubis. When nearly through, it is desirable to get a finger through a small opening, and, using this as a director, to cut from within outwards, so as to avoid scratching the uterus. The assistants support the abdominal wall on either side, looking out to prevent the escape of intestine. The *uterine incision* is made in the middle line, sparing the fundus and lower segment as much as possible, as these parts are not well adapted to close by contraction. Circular fibres predominating near the cervix tend to make the wound gape. A manœuvre described by Winckel, and forced upon him by his being often called upon to operate with insufficient assistance, here deserves attention. An assistant hooks

the forefinger of each hand in the upper and lower angle of the uterine wound, and, lifting them up, fixes them in contact with the corresponding angles of the abdominal wound. This shuts out the intestine effectually, and tends to prevent the blood from running into the abdominal cavity.

If the placenta is found directly behind the wound, the hand of the operator is insinuated between the placenta and the uterine wall, detaching it until the edge is felt, when the membranes are pierced, and *the child is seized by the feet.* This point Dr. Barnes prominently emphasizes, because he has seen a surgeon pull at the arm and fail to extract the child. Sometimes the neck is tightly grasped by the uterine wound. If the constriction does not soon yield, it is better, says Scanzoni, to extend the incision than to drag overmuch, lest the wound be torn.

When the child and placenta are removed, attention is required to watch the bleeding; this generally takes place from the cut sinuses in the uterine walls, less frequently from the inner surface from which the placenta has been separated. Hæmorrhage is best checked by direct compression of the uterus with the hand; if the uterus contract well, the hæmorrhage ceases. Ice may be applied to the wound, and a piece placed in the uterine cavity.

Before closing the wound, *thrust the probang through the os uteri and vagina,* to make sure that the natural passages are clear for the discharges from the uterus.

*The Closure of the Wound.*—When the bleeding has ceased, and any blood that may have found its way into the abdomen is removed, we have to consider the question of applying sutures to the uterine wound. It is a matter of observation that in many fatal cases the edges of this wound have been found flaccid and gaping. But in the majority of, if not in all, these cases the operation had been performed on women exhausted by protracted labour; and, on the other hand, in women operated upon at a selected time, when the powers are unimpaired, the uterus commonly contracts well. Winckel says he has never lost a case from hæmorrhage, and has not stitched the uterine wound. Mr. Spencer Wells has had a successful case in which he used a long piece of silk as an uninterrupted suture, leaving one end hanging out through the cervix and vagina. By pulling on this end the suture was removed after several days.

Another mode of suture would be to carry the same suture through the uterine and the abdominal walls, so as to secure adhesion between the two parts. A serious source of danger is from vomiting: the straining and relaxation attending this accident tend to promote the opening of both wounds, and to force the discharges through them. This risk would be lessened by uterine sutures. Upon the whole the case may be stated thus:—If the patient is operated upon at a selected time, if the danger of vomiting is lessened by not taking chloroform, and if the uterus contracts well during the operation, the sutures may be dispensed with; but under the opposite circumstances, it would be better to stitch the uterus as was done in Mr. Spencer Wells' case.

*Closure of the Abdominal Wound.*—The methods adopted in ovariotomy may be followed. Dr. Barnes is inclined to prefer the uninter-

rupted silk suture. Winckel's cases were closed by the more common method of interrupted sutures, with intermediate skin sutures. The important point is to *close the wound completely*.

*After-treatment.*—A full dose of opium should be given immediately either in form of pill or suppository. Light nourishment and perfect repose are the things to be observed. The dressings should not be removed for five or six days. To obviate foulness, sprinkling with Condy's fluid or weak carbolic acid may be resorted to. The sutures may be removed on the seventh or eighth day. The bowels may be relieved by enema on the fourth or fifth day.

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## Art. 239.—*The Cæsarian Section: the Dangers of the Operation and Prognosis.*

By Robert Barnes, M.D.

(*Medical Times and Gazette*, December 26, 1868.)

"The principal risks run are as follows:—

"1. If the operation is performed as the last resource after protracted attempts to deliver by other means, the woman is liable to sink from shock and exhaustion within a few hours; or if she survive beyond a few hours, there is the risk of hæmorrhage, of peritonitis, and of puerperal fever. It may be said that the prospect of recovery, when the operation is performed under these circumstances, is very small.

"2. If the operation is performed at a selected time, the woman escapes the shock attendant upon the protracted labour, and encounters the shock of the operation with unimpaired strength. Still, the shock is very great, and is not seldom fatal *per se*. This is the first and most pressing danger. Could it be in any way modified or controlled, the Cæsarian section might be undertaken with more confidence. But shock necessarily attends all severe abdominal injury. It affects different persons in different degrees. Nor can we readily predicate of any given person that she will bear shock well or badly. It is an uncertain element, and must probably ever perplex all calculation as to the result of the Cæsarian section in any particular case. I do not think that chloroform materially lessens the shock; and it adds the danger of vomiting.

"3. The next danger is *hæmorrhage*, and as hæmorrhage is often associated with prostration as cause and as effect, the danger is serious. This may come on within a few hours. It might be expected that hæmorrhage would be liable to come from the inner uterine surface, as after ordinary labour, but the more common source is probably from the sinuses divided in the uterine wound. The quantity lost may be enough to cause a fatal anæmia. But the more common evil is from the irritation caused by the blood collecting in the abdominal cavity giving rise to

"4. *Secondary shock* and *peritonitis*. That secondary shock precedes peritonitis I have no doubt. Intense pain, even tenderness on pressure,

rapid small pulse, accelerated and impeded breathing, suggest the diagnosis of peritonitis; but if at this stage the patient die and is examined, probably no trace of peritonitis, as revealed by redness or effusion, is discovered. Peritonitis may come on the day following the operation. It may be met by fomentations to the abdomen, by opiate suppositories; and the prostration soon ensuing must be combated with wine, brandy, beef-tea, chicken-broth. Salines are often useful, especially at first.

"5. If the patient escapes the preceding dangers, there is still the risk of septic infection, of *septicæmic puerperal fever*. The source of this is the absorption of septic matter from the cavity of the womb or from the edges of the wound; or it may arise from general blood-dyscrasia resulting from the accumulation in the circulation of effete matters which the excreting organs are unable to dispose of.

"6. In addition to the dangers incident to the operation and to the puerperal state, there is the danger inherent to the disease which rendered the operation necessary, liable in some cases, as in cancer, to be aggravated by the operation, which may accelerate the fatal issue.

"Winckel says that osteomalacia is much more unfavourable than rickets in connexion with Cæsarian section. Still osteomalacic patients bear wounds well, and the power of repair is often great.

"The uterus often contracts adhesions with the abdominal wall during repair. These adhesions do not appear to entail any serious inconvenience; and should pregnancy again occur, and the Cæsarian section be again necessary, they render the operation less dangerous. The peritoneal cavity is shut off; the incision through the abdominal wall leads directly through the adhesions to the uterus. Thus the dangers of hæmorrhage, of effusions into the abdomen, are eliminated, and it is even probable that the shock is less. On the other hand, no adhesions may be found, and the wound in the uterus heals so completely that years after no trace of cicatrix is found (Radford).

"Several cases are now known in which the Cæsarian section has been performed twice, thrice, and even four times on the same woman.

"These cases of repeated success would seem to indicate a special tolerance of severe injury in the subjects, and cannot wisely be taken as evidence, absolute or cumulative and statistical, in reduction of the danger of the operation. This is further illustrated in the following history:—Dr. Freericks (*Nederl. Tijdschr. v. Geneeskunde*, 1858) performed the section on account of contracted pelvis. Mother and child recovered. When again pregnant, premature labour was induced about the eighth month. When labour had begun, collapse set in; the uterus had ruptured. The child was removed from the abdomen by gastrotomy. Vomiting caused extrusion of the intestines. To effect reposition, numerous pricks were made in them to let gas escape, without effect until an incision was made with a bistoury, and much thin pappy matter was evacuated. The intestines were then replaced, and the wound was closed. She recovered completely. How many women would be as tolerant?"

## Art. 240.—*Studies on Gastro-hysterotomy.*

By Giuseppe Testa, M.D.

(*Analysis in the Annali Univ. di Medicina,* 1868 ; and *British and Foreign Med.-Chir. Review,* January.)

In an elaborate work on the Cæsarian section, Dr. Testa discusses the history, statistics, and other points; and especially investigates the following :—In some cases the wound in the uterus is found, after death, gaping, in others closed. Testa set himself to discover upon what this difference depended. He minutely examined the muscular structure of the uterus. He found that when the incision is so made as to fall in the line of direction of the fibres, the lips of the wound will be maintained in apposition ; but that when the wound cuts across all the layers of muscles, gaping must follow. The gaping will be the greater, the longer the fibres are which are divided; and will increase with the uterine contractions; and since the external muscular fasciculi are longer than the internal, it is clear that the retraction of the first will predominate, and cause the divergence of the margins of the wound. Thus he observes that when the incision fell upon the fundus, cutting the transverse and oblique fibres proceeding from the Fallopian tubes, the wound gaped, owing to the retraction of these fibres towards their points of origin. And when the incision was made transversely from one of the sides, so as to spare the longitudinal fibres of the tubes, the edges of the wound could be drawn together. In the lower third of the uterus, wounds made in the direction of the long axis, would present the margins in contact, the longitudinal fibres being spared; but since the neck becomes distended and relaxed during the latter months of pregnancy, it follows that the borders of the wound are kept apart by the divided and stronger transverse fibres. The gaping would be greater if the incision was oblique, so as to divide all the orders of fibres. It is true that the anatomical structure of the middle third is the same as that of the lower third, but at this point the longitudinal fibres not having suffered distension, and preserving their tonicity, are fit to maintain in contact the margins of wounds made according to their direction.

The application of these researches follows:—1. Incisions in the uterus made in the axis of the body, in the upper third, remaining open, give rise to escape of lochia into the abdominal cavity, setting up peritonitis. 2. This may be avoided by making the incision transverse and lateral, but this is to be avoided on account of the risk of dividing large vessels. 3. Oblique and longitudinal incisions in the lower third equally dispose to effusions and peritonitis. 4. Testa recommends to make the incision transversely, and on one side, a little above or below the insertion of the tubes, so as to avoid an order of fibres (the longitudinal of a tube before they become oblique), and thus avoiding all obstacle to the approach and union of the lips of the wound. He relates that Dr. Cocchi of Rome having followed this advice, saved mother and child. Dr. Testa then examines the various modes of applying sutures to the incised uterus. He objects to most of those proposed, and suggests one

of his own. It consists in inserting two long needles at the level of the upper angle of the incision, at a distance of four lines from it, from without inwards through the abdominal parietes; then in making each needle penetrate the thickness of the corresponding lip of the uterine wound throughout its whole length, and always at the same distance from the margin; this done, the needles are brought out from within outwards, at the level of the lower angle of the wound. Care must be taken not to pierce into the cavity of the womb. Then a thread is twisted round the upper ends of the needles, and another round the lower ends; the rigidity of the needles suffices to keep the edges both of the abdominal and uterine wounds in apposition. Then straps of adhesive plaster are applied. Thus parallelism is preserved between the wounds; the escape of matter into the peritoneum is avoided; and the protrusion of intestines is prevented.

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## Art. 241.—*Mechanism of the Fall of the Umbilical Cord.*

### By M. de Lignerolles.

(*Thèse de Paris*, 1869; *Archives Générales de Médecine*, No. 3, 1869.)

M. Lignerolles gives the following as the results of his researches on the detachment of the umbilical cord:—

The detachment of the cord takes place in consequence of a process of elimination identical with that of gangrene.

The separation occurs at the level of the summit of the cutaneous prolongation, that is to say, some few millimetres from the abdominal wall. It always takes place at this point, whether there be a hernia or not, because it is here that the vessels of the fibrous ring and of the integument turn back without passing into Warton's membrane, which, as has been admitted by Virchow, is entirely deprived of bloodvessels.

Detachment also takes place at this point, because at this level the vasa vasorum of the umbilical veins are arrested. Further on, that is to say, in the cord, these vasa vasorum are entirely absent.

The retracted portion of the cutaneous prolongation becomes invaginated, and tends more and more to form a plug to the umbilical fibrous ring, in consequence of the incessant retraction of the umbilical veins which adhere to the circumference of this prolongation. This cutaneous plug and also the plastic lymph which, produced at the time of the elimination of the cord, combines its elements, are the two agents of the occlusion of the umbilical opening.

The mucous tissue of the cord presents but one band of vessels,—the lymphatics, which take their origin from the surface of the enveloping membrane, but whose terminations have not yet been described.

The semicircular fibres, to which Prof. Richet gives the name of umbilical sphincter, play but a very subordinate part in the detachment of the cord; their principal use seems to be that of strengthening the ring of the umbilicus.

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## Art. 242.—*Injections of Morphia in the Pains and After-pains of Labour.*

By Ernest Kormann, M.D.

(*The Practitioner*, November, 1868.)

Dr. Ernest Kormann read a paper on this subject before the *Gesellschaft für Geburtshülfe*, at Leipzig, which gives very interesting results as obtained by this treatment. The author does not in the least hesitate to inject morphia for the relief of labour-pains, when they are severe, especially in primiparæ, and also in those subjects who have contracted pelvis. He employs a solution of the sulphate of morphia, three grains to the drachm; it does not require any acidulation to keep the salt dissolved. He gives from one to three injections during the course of a labour; usually only one, however. The doses employed range from about $\frac{1}{4}$ to $\frac{3}{5}$ grain, and he has never had reason to think they did harm. They do not appear to interfere with the steady progress of the labour, though they often reduce the frequency of uterine contractions, when these have been what English people call "niggling." He thinks that they may be used either during the dilating or the expulsory stage of the labour; the former process they often actively aid. It is a remarkable though intelligible fact, that patients who have been injected during labour seldom have *after-pains;* but when the latter have occurred, injection is a most useful and valuable agent in procuring that repose which is so necessary to restore the woman's strength after the fatigues of parturition. The locality which Kormann selects for injection is always the thigh. Besides the above general uses of the injection in parturient women, painful complications, and especially *cramps* of the muscles of the extremities, may be most effectively treated by this method.

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## Art. 243.—*Expulsion of a Fibrous Tumour after Parturition.*

(*Gazette Hebdomadaire*, No. 23, 1868.)

The following report of an interesting case observed by M. Falin was communicated to the Société Impériale de Chirurgie by M. Depaul.

A woman, thirty years of age, who had already had three children, arrived at the end of her fourth pregnancy on April the 15th, 1868. On this day she had some pains, and on the following morning the labour commenced. The woman was delivered without assistance of a male child. M. Falin attended a few hours afterwards, and as the woman had always lost with her labours some blood, he introduced his hand into the uterus with the intention of removing any blood clots. He then felt a hard and evidently voluminous tumour, to extract which vain efforts were made. In a short time the os uteri closed, the hæmorrhage diminished, and was replaced by slightly fœtid lochial discharge. The patient had almost completely recovered, when four days after the labour a tumour projected between the labia majora. This tumour was of the size of the wrist, and oval in shape. M. Falin considered it to

be a fibrous tumour, and extracted it. Its surface was smooth and without a pedicle; at some points a few linear anfractuosities could be seen.

M. Depaul doubted the correctness of M. Falin's diagnosis. The expelled tumour was of a rosy colour, and contained a great number of filaments of cellular tissue. When divided along its great axis it presented in its interior two cavities, each of which enclosed a spherical body; one of these bodies was moveable, and suspended in a reddish fluid; no traces of vessels were perceived in the tumour. It was thought at first by M. Depaul that this tumour might represent a fœtal monstrosity, and one of that kind which is characterized by a cutaneous covering forming a pouch, in which one meets with *débris* of various organs—osseous fragments, portions of the digestive tube, &c. As the microscope alone could clear up this point, the tumour was examined by M. Robin, who recognised it as a typical fibrous body, multilocular, composed for the most part of smooth muscular fibres, with partitions formed of connective tissue. The product, then, had not a fœtal origin.

M. Depaul states that when a similar mass to the one just described is expelled after parturition it should be examined with care. He has observed an anide monstrosity which bore very great analogy to the fibrous body removed by M. Falin. But fœtal monstrosities of this kind nearly always have an umbilicus, and contain in their interior osseous or cartilaginous fragments. They are generally expelled after labour, and thus constitute, with the infant, a twin pregnancy. Cases of fibrous tumours projecting into the uterine cavity are not very rare, but as a general rule they are not expelled after labour. In M. Falin's case the fibrous tumour had probably undergone hypertrophy during pregnancy, and afterwards, when the labour was over, became enucleated, either spontaneously or in consequence of the attempts at extraction made by the accoucheur. The absence of a pedicle shows that the tumour was not a polypoid growth. Fibrous tumours in connexion with labour have been studied by Hauregard, who published nine cases in Malgaigne's journal. M. Danyau also observed a case in which a polypoid growth from the anterior lip made its appearance at the vulva seven hours after delivery, and was excised.

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## Art. 244.—*On the Value of Perchloride of Iron in Post-partum Hæmorrhage.*

By Hugh Norris, L.R.C.P. Edin.

(*British Medical Journal*, April 10.)

Mr. Norris's experience of this drug has led him to the following conclusions:—

1. We possess no topical styptic in efficacy at all approaching the perchloride of iron; its effects being certain, perfect, and instantaneous.

2. In *post-partum* hæmorrhages, a solution of this salt applied in the form of an intra-uterine injection, is of the utmost value both in immediately arresting the flow of blood, and in also causing a permanent contraction of the recently emptied uterus.

3. Its presence in the cavity of the uterus, *post-partum*, is not merely not injurious, but, on the contrary, from its well-known antiseptic properties, may frequently be productive of positive benefit in more ways than one.

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## Art. 245.—*On Cephalotripsy.*

By Robert Barnes, M.D. Lond.

(*Medical Times and Gazette*, November 14, 1868.)

"*The powers of the cephalotribe.*—The all-essential point is that it shall be able to compress and even crush down the base of the skull. A secondary property which it is desirable to possess is that of holding during extraction. The crushing power can be attained in sufficient perfection, and with a gain in the facility of handling, if the instrument be made much less formidable in bulk than are most of the Continental cephalotribes. Three good modifications have been constructed here. Sir James Simpson's is the best known. He insists upon a pelvic curve in the blades as being less likely to slip than straight blades. Dr. Kidd's, of Dublin, is the best type of a straight-bladed cephalotribe. Dr. Kidd insists strongly upon the advantages of long straight blades on the following three grounds:—First, straight blades admit better of the head being rotated whilst in the grasp; secondly, they are easier to introduce; and lastly, they hold more securely. Dr. Braxton Hicks has modified Sir James Simpson's cephalotribe, producing a very handy and efficient instrument. He preserves a moderate pelvic curve, and adapts a very convenient screw to the handles as a crushing power. I believe that to seize a head above the brim, as is necessarily the case where crushing is required, the blades should be curved; but this curve should be moderate, otherwise the inconvenience in rotating or shifting the relation of the instrument to the pelvis referred to by Dr. Kidd will be felt.

"When the instrument is applied to the perforated head, it may be made to completely crush the base, flattening the head sideways, or doubling up the base; or, by the slipping of one of the blades inwards a little, the base is tilted edgewise, and the skull is flattened by the pressing inwards on to the base of the squamous and parietal bones. Under either of these proceedings the head can be so flattened as to allow the blades to meet, and as the instrument then measures only 1·50″, the obstacle is reduced to that degree. It is generally desirable to repeat the crushing, which is done by taking a fresh hold in a different direction, and then compressing again. Two crushings will generally be enough.

"A distinctive advantage of the cephalotribe was pointed out by Curchod (Berlin, 1842). It is that the plasticity effected by crushing so modified the form of the head that it was easily moulded to the form of the pelvic brim.

"1. What are the limits of application of the cephalotribe? The maximum of course is not difficult to determine. It may be usefully employed in almost any case of minor disproportion. But what is the

least amount of space admitting of its use? This must depend somewhat upon the form and size of the particular model adopted. In a discussion held at Berlin the majority of the speakers thought a minimum of 54 mm. = 2·0″ conjugate diameter, was necessary. Lauth says the application begins at 8 mm., or about three inches, at which point the forceps and turning are not available, and ends at 5·0 mm., or a little under 2·0″. But Pajot goes beyond this, and contends that it ought to be applied where there is only 1·25″ conjugate diameter. Credé thinks it should be used if only there is room enough to apply it. In this I am disposed to coincide.

"Other conditions are—

"2. The os uteri must be sufficiently dilated, but this can be readily effected by the caoutchouc water-bags.

"3. The head must be previously perforated. Abroad sometimes the ordinary forceps is put on to hold the head during perforation; but this is sometimes not feasible for want of room, and is never necessary, since, by means of external pressure and a good perforator, this operation is not difficult.

"*Position.*—The patient may lie on her left side, as in other obstetric operations.

"*Operation.*—The rules laid down for the long forceps will generally apply to the application of the blades, and it is equally unnecessary in either case to have an assistant or a 'third hand.' The lower or posterior blade is passed first, guided by the left hand passed well into the pelvis if possible. This blade is passed along the hollow of the sacrum until the point approaches the brim and touches the head-globe, when the handle is raised and the point, turning into the left ilium or to the left sacro-iliac synchondrosis, travels over the head. It is passed high up, for the point of the instrument must get beyond the base of the skull. This being *in situ*, the second or anterior blade is introduced also at first in the hollow of the sacrum crossing the handle of the first blade. When the point approaches the brim, the handle is lowered and carried backwards, and the point rises over the head-globe into the right ilium, or opposite the right cotyloid cavity, when it falls into opposition with the first blade. Being locked, the screw is turned slowly and steadily, the hand in the vagina taking note of the work done. If spicula crop out of the scalp, they should be picked away by the fingers. When the base is crushed in the direction first seized, you may, if the instrument hold, use it as a tractor. If there be any marked resistance, it is better to take off the blades, to reapply them in the opposite oblique diameter and repeat the crushing; then, by rotating the head by turning the handles, you may find that the head is better adapted to the brim, and will come through. But you must be prepared to find the cephalotribe fail as a tractor. It is made to crush, and if it has done this well, it has done good service. I have, however, found Dr. Hicks's instrument hold perfectly. Extraction may be completed by the crotchet- or by the craniotomy-forceps, or by turning. The late Professor Davis did not use the cephalotribe, but in extreme cases he cut away the head piecemeal by his osteotomists, and seized and extracted the trunk by a double sharp body-crotchet.

"Pajot of Paris has practised a method analogous to that formerly

employed in this country in craniotomy. He performs what he describes as 'céphalotripsie répétée sans tractions'—that is, he first crushes the base by one operation; he then gently tries to effect a slight rotation of the instrument so as to bring the crushed sides of the head into relation with the contracted diameter. If there is any resistance, he desists, and leaves the case for two or three hours for the uterus to mould the crushed head to the brim. He then repeats the crushing, and again gives two or three hours to nature. One or two crushings suffice for the trunk. (See also *Osservazioni di Cefalotrissia*, by Dr. Chiara, Turin, 1867, for a good case in illustration.) Pajot places this method in distinct competition with the Cæsarian section. The cases related by Pajot lend weight to his recommendation; but I cannot help thinking that the operation may and ought to be finished at one sitting.

"When the head is extracted, there may be some trouble with the shoulders and trunk. The shoulders will generally be disposed obliquely in the brim—that is, one will be anterior to the other. By keeping up traction on the head backwards, this anterior shoulder will be brought a little down, so that a finger or the blunt hook or crotchet can be fixed in the axilla to pull it through. When this is done, the head is dragged down forwards, so as to enable the same manœuvre to be repeated with the posterior arm. If this cannot be readily done, it is a good plan to crush in with the cephalotribe. Dr. Davis seized the trunk with his double body-crotchet. If turning had been practised after perforating or cephalotripsy, the arms fall in upon the crushed head and offer no obstruction.

"To save the assistants the ghastly sight of the mangled head, wrap a napkin round it as soon as it is born. If traction is necessary in delivering the trunk, it is easier to hold when so treated."

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## Art. 246.—*On certain Dangers which attend the Operation of Craniotomy.*

By Robert Barnes, M.D. Lond.

(*Medical Times and Gazette*, November 14, 1868.)

"*Certain dangers attend the operation of craniotomy.* What are these?

"Certain injuries may be inflicted upon or result to the mother.

"1. The perforator has been known to strike the promontory of the sacrum or to lacerate the cervix uteri.

"2. Spicula of cranial bones, resulting from perforation, may scratch or tear the soft parts.

"3. The crotchet may slip and lacerate the soft parts.

"The above of course may be avoided with care.

"4. But serious evil is likely to result from deferring the operation too long—*i.e.*, until after exhaustion has set in—and under a too protracted operation in an unsuitable case. Long continued dragging of the head upon a brim which it cannot pass, jamming the soft parts more especially at the two points of greatest projection, the promontory

and the symphysis, ends by stopping the circulation in the parts compressed, bruising them, actually grinding through them. In this way, after severe operations, it has been found that a large hole has been made through the posterior cervix uteri. Such injury, added to the shock and exhaustion of the system, may be fatal.

"5. If the immediate injury above described do not occur, the long-continued pressure may cause mortification of a limited portion of the neck of the uterus. Thus, in the course of a few days, a slough is formed between the vagina and bladder, resulting in vesico-vaginal fistula. Dr. F. H. Ramsbotham said (*Medical Times and Gazette*, 1862) that 'in almost all the cases which he had seen of a fistulous opening into the neck of the bladder consequent on labour the child had been putrid, and he attributed the slough more to contact with the putrid head than to simple pressure on the part.' However this may be, I am very certain that simple pressure, especially if bearing upon a limited spot, is enough to cause the accident; and I have quite recently seen a case of recto-vaginal fistula ensuing on the birth of a living child delivered by the natural powers.

"In the possibility of attendant danger, craniotomy differs essentially from the forceps. Whilst under craniotomy mischief or death may ensue, the forceps, if used rightly and in suitable cases, is an innocuous instrument. Statistics, professing to show that the mortality from the use of the forceps is at the rate of one in twenty, are flagrant examples of the fallacy of arguing 'post hoc, ergo propter hoc.' Properly speaking, the mortality from the forceps is *nil*. Women die because the instrument is used too late."

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## Art. 247.—*On Rupture of the Uterus during Labour.*

### By M. J. Jolly.

(*Archives Générales de Médecine*, November, 1868.)

M. Jolly in this article gives the clinical history of twenty-six cases, and states in conclusion that the cessation of uterine contractions does not take place so constantly after the rupture of the womb as the authors of modern treatises on obstetrics seem to think. Without speaking of cases in which after the occurrence of rupture some occasional irregular and feeble pains are observed, there is still a certain number of facts which show that the uterus often maintains its energy and continues to fulfil its functions until the termination, whether natural or artificial, of the labour.

This circumstance should, and does in fact, render the diagnosis more difficult, and imposes upon the practitioner the necessity of the greatest attention.

Finally, in some cases the diagnosis will be aided by the presence (scarcely alluded to by authors) of tumours, having a special character, and perfectly recognisable both by sight and touch. These tumours are due to effusions under the peritoneum or between the two layers of the

broad ligaments of blood, either pure or mixed with air, and occupying either the hypogastric region or one or other of the iliac fossæ.

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## Art. 248.—*On the Introduction of Air into the Uterine Veins.*

By Julius M. Klob, M.D.

(American Translation of *The Pathological Anatomy of the Female Sexual Organs*, 1868. Moorhead, Simpson, and Bond, New York.)

"The statement of Cormack that the uterus, when relapsing into a relaxed condition after contraction, absorbs a considerable amount of air unless the open extremities of the veins be closed by coagula, and that the air thus absorbed is afterwards forced through the veins by renewed contraction of the organ, is founded on the erroneous supposition that relaxation of the uterus may cause the walls of the veins which were formerly in apposition to be again separated. If the first contraction which closes the veins could be overcome by other antagonistic contractions, the effect of which would open the veins; if muscular fibres existed analogous to the radial and circular fibres of the iris, then entrance of air would be inevitable; but upon the cessation of that uterine contraction which causes the walls of the veins to come together, they possessing too little elasticity, cannot, like a rubber tube, reassume the shape of open vessels. I have not yet seen a case which convinced me that air had passed into the open veins of a recently delivered uterus, and I cannot conceive the mechanical possibility of such an occurrence. Lionet, Lever, and Simpson assert that they have observed such cases, and further remark, that the occurrence was immediately followed by a scarlatinous discoloration of the skin, which may be explained as the effect of sudden oxidation of the blood contained in the capillaries of the skin. Without wishing to lesson the authority of Simpson, it is impossible not to advance the question, Whether this was not a case of Helm's *puerperal scarlatina*, with rapid putrescence and development of putrescent gases in the blood?"

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### (B) CONCERNING THE DISEASES OF WOMEN.

## Art. 249.—*On the Treatment of Imperforate Hymen.*

By Dr. Copeman.

(*British Medical Journal*, January 9.)

At a meeting of the Obstetrical Society of London, held Dec. 2nd, 1868, Dr. Copeman read a paper on the Treatment of Imperforate Hymen, with Retained Menstrual Fluid. After referring to the question of the diagnosis of these cases, the author proceeded to consider the various plans of treatment advocated, and alluded to the fact that he was one of the earliest writers to recommend the gradual evacuation of the fluid contents of the vagina and uterus. Full particulars were then given of

an interesting case in which, in spite of this treatment being adopted, and every precaution used, a severe attack of peritonitis followed the operation; the patient, however, ultimately recovering.

Dr. Barnes observed that the crisis of intolerance caused by the accumulation of fluid in the uterine cavity was postponed by two partially compensating conditions. The watery part of the menstrual blood was absorbed; and after the uterus had been distended by the fluid, a supplementary receptacle was made by the dilatation of the vagina. The pouch formed in the vagina was often very large, and might be mistaken for the uterus itself. He had, some months ago, removed by the wire *écraseur* the vaginal portion of an uterus affected by cauliflower excrescence. The removal was complete and recovery rapid. The woman left the hospital before sufficient means had been taken to preserve the cervix open. She returned with symptoms of retained menses. The closed cervix was opened up with much difficulty, and a quantity of fluid escaped. She again went out, to return after a time with similar symptoms. An opening was again made, but this time severe pelviperitonitis followed, from which the patient was but now recovering. He did not gather from the author's paper that any distinct opinion was expressed as to the causes of the danger and mortality which often followed these operations. In some cases the cause seemed to be, that the uterus, suddenly collapsing concentrically, tended to expel its contents by all the openings into it, and that thus some of the fluid was passed out through the Fallopian tubes into the peritoneum, setting up inflammation.

Dr. Tyler Smith would insist on pressure on the abdomen as the chief means of averting risk. In these cases the uterus was distended rather than developed; and on the withdrawal of the fluid, it did not contract as it did after parturition. He believed that the danger was caused by the entry of air into the flaccid uterus. This caused decomposition, and led, in the first instance, to metritis and then to peritonitis. Similar mischief sometimes occurred from the entrance of air into ovarian cysts after tapping. The evacuation of the uterus and vagina by a small trocar had long been practised, but to do it *guttatim* when the uterus was large would be interminable. His own plan was to make a moderate opening, and to keep up firm and steady pressure on the abdomen by bandaging as the fluid escaped, so as to prevent the entrance of air into the uterus.

Dr. Routh had proved by the kinometer that the vagina during inspiration had a power to expel any air or other contents, and during expiration these were drawn up. Any opening made into the vagina would, when the excess of fluid had escaped, allow the gradual sucking up of air and putrefaction of the contents. This occurred in cases of cellular abscess pointing into and opened *per vaginam*. In both cases he preferred an opening *per rectum*. The hymen might be subsequently divided when the uterus had well contracted and all fear of septicæmia was at an end. As a preliminary measure, Dr. Routh advocated the use of ergot, to be followed by the application of a bandage. When the opening had been made *per vaginam*, if the uterine contents became offensive, the whole should be evacuated as speedily as possible, and the interior washed out with some disinfectant fluid.

Dr. Rasch could not approve of evacuating the retained menstrua through the rectum, as a second operation would have to follow to open the hymen. He was convinced that no air entered the vagina of a woman on her back, as there was no natural power to overcome the close apposition of the vaginal walls; while, in the lateral position, and much more so when the patient rested on her knees and elbows, air certainly entered.

Dr. Alfred Hall related a case of retained menstruation from imperforate hymen which occurred in his practice two years ago. The patient was in her nineteenth year. He made a tolerably large opening through the membrane, and after the escape of a considerable quantity of fluid he washed out the vagina with warm water. The case had done perfectly well, and at the end of three months the catamenia came on naturally.

Dr. Wynn Williams said, that the occasional fatal results of operation in these cases were undoubtedly due to septicæmia from the absorption of putrid animal matter. The remedy was the free use of disinfectants. He preferred tincture of iodine, which, as he had proved, rendered inert the poisonous emanations of decomposing animal matter. He thought too much stress had been laid upon the entrance of air into the vagina; all collections of matter inside the pelvis were nearly always offensive.

Dr. Phillips believed that the immediate danger in these cases was of acute peritonitis, caused probably by the escape of some of the uterine contents into the cavity of the abdomen, even after a free external opening had been made. In the only fatal case which he had seen, death resulted from this cause in a few days. On a post-mortem examination the peritoneum was found to contain a quantity of grumous fluid, with which also the Fallopian tubes were greatly distended.

Dr. Barnes said that, with reference to the question of opening into the uterus *per rectum*, he must remind Dr. Routh that there was always air in the rectum retained by the sphincter.

Dr. Arthur Edis referred to a case in which, there being no vagina, the puncture was made *per rectum* with an ordinary curved trocar, the canula being allowed to remain in; and through it much treacly fluid continued to flow for two days, when it ceased; pelvic pain and constitutional symptoms then ensued. A violent paroxysm of pain on the fourth day terminated by more than a pint of the same treacly fluid being suddenly discharged *per rectum*, after which the patient was easier. On the eighth day the canula was removed. At the end of five weeks the uterus was again punctured *per rectum*, and the canula retained in position for four days. Two months after her admission, by her own wish, she left the hospital, and within a few weeks she died. From the constitutional symptoms in this case, it was fair to conclude that air had gained access to the uterus through the puncture.

Dr. Routh believed the cause of the fatal result in this case was that the canula was left projecting from the rectum. The moment fluid ceased to flow from it, it should be withdrawn.

The president, after giving details of a case similar to Dr. Hall's, expressed his opinion that a firm bandage with compress should always be applied around the hypogastrium before the opening was made, and gradually tightened as the fluid escaped. Of the utility of disinfecting

injections, he had a high opinion. With regard to the proposal to discharge the retained fluid by an opening *per rectum*, he thought that the results of the operation were not in its favour.

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## Art. 250.—*On the Treatment of Pruritus of the Vulva.*

By M. Noel Gueneau de Mussy.

(*Gazette des Hôpitaux*, No. 120, 1868.)

Pruritus of the vulva may be acute, subacute, or chronic.

Acute nervous pruritus should be treated by emollient and starchy washes, to which may be added a decoction of poppy heads or an infusion of laurel leaves. Cataplasms containing rice or starch, lotions of an infusion of belladonna or aconite, and douches of pulverized emollient and narcotic solutions will be found useful.

Applications in cases of extreme sensibility of the affected parts:—Solution of bromide of potassium, powdered rice, and belladonna root, a pomade of glycerine and starch, with or without the addition of bromide of potassium and sometimes with tannic acid, will frequently succeed in relieving nervous pruritus in cases where hyperæsthesia of the vulva coexists.

Zandry instituted the practice of cauterizing the inner surfaces of the nymphæ with a pencil of nitrate of silver; and he has stated that the hysterical affections associated with hyperæsthesia of the genitals, frequently disappear or become modified under the influence of this treatment.

It is very necessary to combine with local applications a general treatment of the neuropathic condition, by recommending a course of certain mineral waters, as those of Néris, Luxeuil, Pfeffers, or Ussat; and particularly by looking after the physical and moral conditions of hygiene.

In the herpetoid or acute eruptive forms of pruritus, the majority of the means just indicated may be prescribed with advantage. After cessation of the more acute symptoms, infusions of camomile flowers may be added.

As a general rule tepid, or even hot, lotions answer better than cold lotions. The latter give temporary relief but excite a painful reaction.

The subacute form of pruritus may succeed to the preceding form or present itself at once. Warm soothing lotions will give relief in these cases; but lotions containing a weak solution of corrosive sublimate, or in some instance alkaline solutions, are of great service in the dry forms; glycerine ointment will often relieve a temporary exacerbation of scalding; one may add to the glycerine in certain cases calomel, extract of belladonna, tannic acid, or benzoin. In the subacute form mercurials are most frequently indicated and generally efficacious.

If the pruriginous lesions extend to the vagina, and if this gives exit to morbid secretions, it will be necessary, after an examination of the uterus and after fulfilling the immediate indications which may result from this examination, to inject sometimes simple soothing and resolvent otions with the addition of decoction of poppy heads, infusion of

aconite, infusion of camomile flowers, or borax. In addition it will be beneficial to introduce daily into the vagina, and to leave there for some hours, a small roll of wadding saturated with glycerine.

The chronic form requires the same topical treatment, but handled more freely; the irritability of the parts is reduced, and the affected integument is less sensitive to the action of modifying agents. Sulphurous baths, which are dangerous in the preceding forms, may now be employed with advantage. M. Noel de Mussy's experience has convinced him of the utility of sulphurous solutions in a great number of chronic affections of the skin. They modify the nutrition and secretion of the integument, and at the same time stimulate it; and are often indicated in chronic and sometimes even in subacute forms of cutaneous affections which are not very irritable, whatever may be their diathesic origin, so long as there is no contra-indication to their employment.

Mercury will often prove very efficacious in the chronic forms of pruritus. The affections grouped by Dr. Bazin under the names of herpetides and arthritides, may undoubtedly be cured by mercurial applications without one being able to declare, from the fact of the cure, any presumption of a syphilitic origin. Generally, in the dermatoses of the vulva, solutions of mercury are preferable to pomades; the latter, however, are useful in certain cases. M. Noel de Mussy has derived benefit from pomades of calomel and belladonna.

A solution of corrosive sublimate (50 centigrammes to 500 grammes of water, mixed with a very hot decoction of poppy heads, has given very good results in M. de Mussy's practice.

M. Noel de Mussy does not fail to give pre-eminence to internal treatment, which ought to accompany and even precede external applications. Most frequently, in order to prevent the metastases which too often follow the suppression of an inveterate morbid localization, the local treatment is not commenced before the organism has been subjected for two or three weeks to general modifying remedies which may subdue the constitutional diathesic substratum of the local lesion.

In this important part of the treatment, hygiene occupies the first place: pure air, a restorative but non-stimulating régime; an avoidance of all moral and physical excitement which may increase the cutaneous lesion; next come those modifying agents of nutrition which are considered as depurative; the juices of bitter vegetables combined with appreciable quantities of sulphur and iodide of potassium. To these may be added more energetic modifying agents, as arsenic in small doses, or the mineral water of La Bourboule, which contains from 8 to 15 milligrammes of arsenite of soda in the litre, associated with 4 grammes of chloride of sodium and 2 grammes of the bicarbonate of soda, a happy combination, which modifies powerfully the nutrition and the quality of the blood, and is not less useful in the scrofulides than in a great number of the herpetides where the tone of the system requires raising, and useful also in some cases of arthritic disorders. To elevate or maintain the nutritive action is an indication which is present in all chronic diseases. Alkalies may also be added with advantage, and if the cutaneous eruption be set up in consequence of an excess of uric acid in the blood, the solid salts may fulfil a chemical indication which it is well to consider.

In pruritus due to vulvitis in young girls, tonics and sulphuro-alkaline baths will often be useful. M. de Mussy has often brushed over the parts a solution of nitrate of silver, and after the cessation of the acute stage, applied lotions of sulphate of zinc, alum, or compounds of tannin. With pregnant women the pruritus sometimes persists even after delivery. Cataplasms made with rice starch and infusion of aconite, will often succeed in cases where all other topical remedies have miscarried.

In all cases of pruritus of the vulva, it is by the combined action of general modifying agents and of topical applications that one may hope to obtain a cure; relapses are of very frequent occurrence, and it is only by the persevering observance of hygienic precepts that one may hope to prevent them.

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## Art. 251.—*Uterine and Vaginal Discharges.*

By James R. Lane, F.R.C.S., Senior Surgeon to the Lock, and Surgeon to St. Mary's Hospital.

(*British Medical Journal*, December 5, 1868.)

When these discharges are of purely local origin, and there is no constitutional fault, their cure may be speedily effected by local applications. The plan commonly pursued at the Lock Hospital is to make the patients use vaginal injections for themselves three or four times daily. The lotions employed are the diluted liquor plumbi subacetatis, or solutions of sulphate of zinc, alum, or tannin, in the proportion of five grains to the ounce of water. The syringes are large enough to hold six ounces of the lotion, and have a pipe long enough to reach the upper part of the vagina readily. Both these points are important, for the syringes commonly used will not contain sufficient fluid to wash out the canal effectually, and the pipe affixed to them will not admit of its reaching the upper part of the vagina at all When the vaginal mucous membrane is inflamed and tender, the house-surgeon, when the speculum is used, which is at least twice a week in all these cases, inserts a strip of lint dipped in the lead-lotion, and this is allowed to remain for three or four hours. If the inflammation be acute, the application of the strip of lint is repeated daily through a small speculum. By these means, discharges proceeding from the *vagina* may usually be cured in a few days, but the injections should be continued as long as any abnormal uterine secretions are observed, for the latter, if not frequently washed away, will be likely to re-excite disease in the vaginal mucous membrane.

But vaginal injections are of little or no use for the cure of discharges proceeding from the interior of the cervix uteri—a complication which is almost invariably present in these cases. In the treatment of this condition, success will depend mainly on the amount of personal care and attention afforded by the surgeon himself. At the Lock Hospital, the speculum is used twice a week in all, and three times a week in many, of these cases; and through it suitable applications are made to the os and cervix. The nitrate of silver, either solid or in solution, is the remedy most in favour, especially in the earlier stages of the treatment, and when the discharge is purulent; later, simple astringents,

such as tannin alum, or perchloride of iron, are employed. Before using the caustic, all discharge should be wiped away from the os uteri with a piece of dry cotton-wool; and the plug of tenacious matter, which usually fills the cervix, should also be removed or it will prevent the remedy reaching the diseased surface. The application of a strong solution of alum coagulates this discharge, and renders its removal more easy. The stick of nitrate of silver is then inserted to the depth of about an inch into the canal of the cervix, and is also applied to any abraded or ulcerated surface which may be seen around the os; or, instead of the stick, a solution of the nitrate (a drachm to an ounce of water) may be applied by means of a piece of sponge or cotton-wool about the size of a pea, which is passed along the cervical canal with a suitable pair of forceps. Mr. Lane prefers to use the solid nitrate on the first one or two occasions, and afterwards the solution. By these means, the discharge speedily loses its yellow colour, and becomes white or semi-transparent. When this result is obtained, astringent solutions, such as the milder liquor ferri perchloridi of the British Pharmacopœia, or solutions of alum or tannin (a drachm to an ounce of water), may be substituted with advantage for the nitrate of silver. The glycerinum acidi tannici, or acidi gallici, are also frequently used; but they do not appear to possess any advantage over the watery solutions.

Other methods of applying remedies to the interior of the cervix uteri have been tried, but the plan above described has been found most convenient and effectual. A very efficient mode is to inject the solutions into the cervix with a syringe; but this has the disadvantage of being sometimes followed by abdominal pains—no doubt, from the fluid penetrating too far into the body of the uterus. Mr. Lane has also used suppositories containing nitrate of silver, sulphate of copper, or alum, incorporated with cocoa-butter, in the proportion, by weight, of one part to four or five, and made into pencils of appropriate size for introduction into the cervix uteri. These answer well enough; but, on the whole, Mr. Lane is disposed to prefer aqueous to greasy applications. The essential point, whatever the substance or solution chosen, is to take care that it is effectually applied along the whole length of the canal of the cervix uteri. There is rarely any pain occasioned by the use of caustics or astringents to these parts. The patients are almost invariably quite unconscious that anything is being done.

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## Art. 252.—*On a Peculiar Form of Vaginitis.*

### By Prof. H. Hildebrandt.

(*Monatsschrift für Geburtskunde*, August, 1868; and *Gazette Hebdomadaire*, No. 42, 1868.)

Professor Hildebrandt has had occasion to observe a form of vaginitis which, in its symptoms, progress, and termination, differs from acute or chronic catarrh of the vagina.

The characters of this affection, to which M. Hildebrandt has given the name of adhesive ulcerative vaginitis, may be briefly detailed as follows:—

The inflammation occupies the superior third of the vagina; the mucous membrane is sometimes even, smooth, and not swollen; at others it is slightly eroded, red, and sanguinolent; it is deprived of its epithelium, and reveals the papillæ in the form of delicate points; the surface of the mucous membrane readily bleeds on contact with the finger and speculum. The discharge is viscid, thick, creamy, often mixed with streaks of blood or of sanguinolent serosity, and it presents under the microscope elements of pus and of pavement epithelial cells.

The lower two-thirds of the vagina and the vestibule present a mucous membrane which is almost quite normal and rarely even slightly inflamed.

The chief characteristic of this affection is a remarkable tendency of the affected parts to unite with the vaginal portion of the cervix uteri. This adhesion may take place with such rapidity that in a short time the fundus of the vagina is entirely represented by a kind of regular arch, at the summit of which may be seen the orifice of the neck, but with no visible appearance of the cervical projection.

Professor Hildebrandt reports five cases of this form of vaginitis, and attempts to demonstrate that it differs from the varieties hitherto described. It cannot be considered as a diphtheritic process analogous to that met with in infants in the course of severe and adynamic fevers, since one does not find here diphtheritic patches or adherent exudation, but merely a simple erosion of the mucous membrane without exudative formations, and, moreover, the affection remains restricted to the upper third of the vagina. It is difficult, however, to make out the true cause of this affection. The five affected patients presented very different ages: twenty-three years, forty-eight years, forty-nine years, fifty years, seventy years; the affection seems to take on a more special character at an advanced age. All the patients had escaped the risk of contracting those uterine affections which are associated with blennorrhagia, and from the troubles of menstruation and the different actions which result in catarrh or ulcerations of the cervix. It is equally difficult to explain the intercurrent hæmorrhages which had existed in the women who were the subjects of these observations, since at the ages of fifty and seventy years all menstruation had ceased; one cannot but attribute them to irritation of the eroded parts of the vagina. In one of the cases the patient complained of very acute pain, and the vagina was completely obliterated. It may be concluded that this symptom was the result of retention of products secreted by the uterus. It will perhaps be thought that this tendency to adhesion of the vagina and cervix uteri results from senile atrophy of the genitals, but, as Professor Hildebrandt remarks, the distinction rests upon important characters. In fact, in adhesive vaginitis, the vagina retains its normal breadth and shortness, the uterus remains at its ordinary elevation, and presents a mass as well developed as in the normal condition. In senile atrophy the vagina is contracted in all its dimensions; the uterus presents changes in form, consistence, position, and size, which do not exist in cases of adhesive vaginitis.

## Art. 253.—*On the so-called Dysmenorrhoic Membrane.*

By Julius M. Klob, M.D.

(American Translation of *The Pathological Anatomy of the Female Sexual Organs.* Moorhead, Simpson, and Bond, New York.)

"Morgagni, Madame Lachapelle, Boivin, and Dugès had already observed in dysmenorrhœa, the expulsion of peculiar membranes from the uterus, the striking resemblance of which to the *membrana decidua* had been remarked by P. Frank. Desormeaux, Churchill, Montgomery, Chéreau, and others, considered these membranes as croupy exudations, until their true nature was demonstrated by Simpson, Oldham, and Virchow.

"The membrane, which is generally covered with coagula when expelled in its integrity, is of a flattened and triangular shape, with two long borders and a short one; the posterior and anterior layers being united at their margins, the membrane consequently forms a sac. At its angles this triangular sac is open, and the borders of these openings have a ragged appearance. Its external surface is rough and felt-like, and perforated by numerous openings, some of which are larger than the puncture of a needle, and are also visible on the inner surface, giving the walls of the sac a sieve-like appearance. Its inner surface is smooth, and of uniformly soft feeling.

"It is now clearly demonstrated that this membrane is nothing more than the exfoliation of the whole mucous membrane of the uterus during menstrual intumescence, for it is easy to detect in it, with the aid of the microscope, the characteristics of that membrane. Simpson recognised the above-mentioned perforations in the membrane as corresponding with the utricular glands, and found them to consist chiefly of nucleated cells; he therefore concluded that this membrane was nothing more than exfoliated hypertrophial mucous membrane. Virchow, even with the naked eye, noticed large bloodvessels in these membranes.

"Consequently, in this affection, the uterine mucous membrane is cast off as far as its matrix, and a sort of decidua is formed in consequence of a condition which Virchow calls 'pregnancy on a small scale,' and for which membranes he therefore proposed the name of menstrual decidua. According to Oldham this membrane is formed between the menstrual periods, the process commencing with considerable congestion of the ovaries, which extends to the posterior wall of the uterus, and frequently occasions retroversion of the latter.

"I have already stated that menstrual intumescence of the uterus differs very little from that accompanying acute catarrh. If therefore we are constrained to consider the process producing the menstrual decidua as an excess of menstrual phenomena, especially in the mucous membrane of the uterus, it follows that those pathologists were not far from the truth who described such cases as *endometritis*.

"Finally, I must also mention those cases which Rokitansky suspects to be abortion during the first days of pregnancy, although this connexion is not clearly proven.

"Membranous coagula, consisting of fibrin formed in the cavity of

the uterus from extravasations, and moulded to the shape of the uterine cavity, are sometimes mistaken for menstrual decidua. Of course they are entirely destitute of organization, and not always of the peculiar sieve-like appearance."

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## Art. 254.—*On Uterine Hydatidiform Disease, or Cystic Degeneration of the Ovum.*

By Thomas More Madden, M.R.I.A., L.K. & Q.C.P.I., M.R.C.S. Eng., Assistant Physician Rotundo Hospital.

(*Dublin Quarterly Journal of Medical Science*, November, 1868.)

Dr. Madden submits the particulars of the two following cases of uterine hydatidiform disease, one of which came under his notice several years ago, and the other of which occurred very recently:—

"Case 1.—On the 4th of October, 1860, I was requested to visit Mrs. K., who, I was informed, was threatened with miscarriage. She was twenty-two years of age, and had previously given birth to two children at the full time. She stated that she believed herself to be five months pregnant, and her abdomen presented the ordinary appearance of a woman about that time advanced in pregnancy. For three days before I saw her there had been a considerable amount of clotted blood discharged from the uterus, and the midwife assured me that she had distinctly felt the placenta presenting. On examination, however, I found the os small and rigid, and discovered the supposed placenta to be nothing but a rather firm clot. Her pulse was extremely weak and thready, and I gave her an opiate draught and employed cold applications to the vulva. In about two hours from this time a larger clot than had yet appeared was discharged, together with some fluid blood, and was followed by a large mass of hydatids and fresh clots, which filled a large basin. These hydatids were of the usual character of such formations, though some of them were larger than those generally met with, consisting of pedunculated spheroidal cysts varying in size from a currant to a plum. As the hydatidiform mass was very slowly expelled, a dose of ergot was administered, and the discharge continued at intervals for upwards of an hour. When it had ceased, and the uterus, stimulated by pressure with a cold hand, had firmly contracted, I bound her up in the usual manner. She complained greatly of after-pains, but, with this exception, her recovery presented nothing worthy of notice.

"Case 2.—Eliza Fox, aged fifty-three, married, the mother of fourteen children, was admitted into the Rotundo Lying-in Hospital, Sept. 30th, 1868, suffering from hæmorrhage. The history of her case, which I took down from herself, is as follows:—She was last pregnant eight years ago, and her menses have not yet ceased. For the past twelve months there had been a constant red discharge from the vagina, and at the same time her abdomen had been increasing in size; she did not, however, believe herself pregnant, owing to her time of life. During the same period occasional gushes of red watery fluid from the uterus were observed. On the 17th of September a smart attack of hæmorrhage occurred, and three days later regular labour pains, as she says, set in, accompanied by hæmorrhage—these occurred at long intervals; and on the 27th a large mass, which appears from her description to have consisted of hydatids, was expelled from the uterus. On the 29th the hæmorrhage and pains returned, and

after two hours of strong labour pains a small fœtus, as she says, 'about as long as her hand,' was expelled—this appears to have been blighted at an early period of pregnancy, and was followed in due course by the placenta. Some hydatids now also came away. Dr. A. Speedy was then sent for, and had her removed into this hospital. As the discharge of blood still continued, half an hour after her admission, Dr. Beatty removed a mass of hydatids from the uterus, after which the hæmorrhage did not again return. These hydatids are thus described by the pupil on duty in the case book :—'She expelled several masses, varying in size from a pea to a grape; some round, others oval; the small ones rather transparent, the large ones of a straw colour; some were separate, others attached to a solid mass; evidently hydatids of the third order.' The specimens I have preserved of these hydatids are well described in the foregoing extract from the ward book. The patient made a good recovery, and I discharged her on the 8th of October, having kept her only eight days in the hospital."

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## Art. 255.—*On the Removal of Small Uterine Polypi by Torsion.*

By Prof. E. Martin.

(*Monatsschrift für Geburtskunde*, xxxii. 1868 ; *Schmidt's Jahrbücher*, No. 1, 1869.)

According to Professor Martin, of the different methods for removing uterine polypi, that of excision by means of the knife or scissors is especially adapted for firm, slightly vascular, and long stalked follicular growths, but less fitted for tumours rich in bloodvessels, unless the patient be an inmate of some hospital and under constant and experienced supervision. The best method for removing the latter forms of polypi and those with strong pedicles, consists in the application of some special strangulating apparatus, as the écraseur. With those tumours, on the other hand, which are furnished with thin soft pedicles (follicular polypi, myomata, myofibromata), and are developed on the lips of the os uteri or at the lower parts of the cervix, torsion will generally be the most serviceable plan. Professor Martin has applied this method with positive results in two cases of uterine myoma associated with profuse metrorrhagia. The proceeding, he says, is simple. The tumour having been exposed by means of a tubular speculum, whereby the vaginal portion of the cervix is fixed and the operation thus shortened, is seized by a small pair of dressing forceps or by Mugeux's hooked forceps; the instrument is then turned round repeatedly on its long axis until the growth becomes detached through torsion. In Professor Martin's cases there was no after-bleeding. The subsequent treatment consisted in injections of the sulphate of copper or of zinc practised twice in the twenty-four hours for several days. With cancerous protrusions the base is destroyed by cauterization with caustic lime or caustic potash, the application of the agent being repeated every eight or fourteen days until complete recovery.

Professor Martin gives the following as the results of his experience regarding the treatment of pedunculated uterine polypi in clinical and private practice :—1. The method of removal of the growth must vary

according to the condition of the pedicle. 2. Removal with the knife or scissors is frequently attended with danger in cases where the patient is not under the constant supervision of skilled persons. 3. The ligature may be replaced with advantage by the écraseur in the removal of certain uterine polypi. 4. When the polypus possesses a soft and fragile pedicle torsion is to be recommended as the best plan for its removal.

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## Art. 256.—*Prolapsus Uteri of Seventeen Years' Standing Cured by Operation.*

### Under the care of Mr. Norton, of St. Mary's Hospital.

(*The Lancet*, January 23.)

The patient, whose case is appended, is at the present time—a year and a half after the operation—a milk-carrier in London; and though the weights she bears are excessive, there has been no return of the disease, nor have there been any bearing-down pains. She continues in perfect health.

Mrs. M. had laboured under the severe effects of an extensive prolapse of the womb since the birth of her last child, a period of seventeen years. She stated that she was unable to walk, or in any way to gain a livelihood, and that she was only free from pain when lying down.

On examination, the uterus was found altogether external to the vagina. It was much enlarged, thickened, and indurated, and around the os, and upon different parts of the vagina, were several small ulcerations. Pessaries of various forms had been used to support the womb, but without effect.

Mr. James Lane saw the patient with Mr. Norton, and it was determined that the operation which Mr. Lane had performed on several occasions should be adopted.

On the following Wednesday Mr. Norton removed an elliptical piece of the mucous membrane about three inches and a half in length, by two in breadth, from the vesical wall of the vagina. The cut margins were then brought together by means of ten silver-wire sutures, and the uterus returned to its normal position. The bowels were confined by opiates till the sixth day, and then relieved by castor oil. The vagina was syringed daily with warm water, and after eight days the sutures were removed.

Fourteen days after the first operation, Mr. Norton removed by a horse-shoe incision rather more than an inch of the mucous membrane of the posterior and lateral walls of the vagina, including the cutaneous margins of the fourchette. The denuded surfaces were now approximated as in the operation for ruptured perineum, and were firmly fixed by means of silver-wire quilled sutures. The projecting lips were more evenly adapted by a second row of wire sutures somewhat deeply placed. As on the previous occasion, the bowels were quieted by opiates throughout the week. The quilled sutures were removed after forty-eight hours, and the others in seven days. On the removal of the quilled sutures a few drops of pus exuded, and the parts around showed

some little redness and induration, but these symptoms were relieved by a bread and water poultice.

Within a fortnight after the second operation the patient left the hospital entirely cured.

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## Art. 257.—*Stricture of the Internal Os as a Cause of Miscarriage.*

By William Marshall, M.D.

(*Glasgow Medical Journal*, February, 1869.)

The author relates the following instructive case. He was called to a delicate woman, aged thirty, five months advanced in pregnancy:—

"The pains were strong and forcing, very similar in character to those which immediately precede the expulsion of the head in a primipara. I was told that when pregnant last she had miscarried at the fifth month, and that the pains then, for three hours, had been very severe—much worse than she had ever had in any confinement, and similar to what they were now. On examination, I found the os uteri dilated to the size of half a crown, and very soft. On passing my finger further up in order to feel the fœtus, I found the canal of the cervix becoming decidedly narrower, when suddenly she cried out that I was cutting her, and jerked herself away. On a second attempt the same thing was repeated; but on a third, being prepared for her moving, I ascertained that a tight resisting constriction existed at the internal os, which would not admit the tip of the finger. As soon as I touched the constricted part, she complained of a severe cutting pain; and on attempting to pass the finger through it, she became hysterical, and on my persisting, *perfectly maniacal*. On withdrawing my finger she immediately became rational, and complained of the agonizing pain I had caused her.

"As she was quite positive that in her previous miscarriage she had suffered for three hours as much as she was doing now, I waited for a couple of hours. During this time the pains were very strong, and the suffering greater than I had ever seen in any confinement. In order to make a thorough examination, I put her under chloroform. The external os was very soft and dilated; but at the internal os there existed a constriction which still readily allowed the finger to pass through, and which seemed now quite dilatable. The breech was presenting, and I had no doubt that when a pain came it would be pushed through, and the whole thing soon be at an end. The pains, however, did not return as long as I kept her under chloroform, so that I was forced to discontinue it. The stricture returned with the first pain, firmly grasping the tip of my finger, which I had retained in the uterus. I now gave her a dose of ergot, and waited until one o'clock, when, finding that little or no progress had been made, I determined to notch the stricture in one two places, under chloroform, as it was impossible to touch it without causing intense pain, and bringing on a maniacal paroxysm. I went home for a probe-pointed bistoury, and on my return in half an hour found the strictured part, with the breech forced into it, protruded

through the external os, which was drawn up around it. After a few pains, the breech passed through the constriction: I pulled down the body, and finding that the head would not come, pushed my finger past it, hooked it over the crown, and pulled the head through the stricture. Without withdrawing my finger, I detached the placenta, and withdrew it and the finger at the same time. While doing all this the patient was perfectly maniacal—she shrieked, kicked, struck, and bit at those around her. Immediately on withdrawing the finger she became rational, and apologized for what she had done; the agony had been so intense, she said, as to drive her for the time out of her senses. She recovered without a bad symptom."

Dr. Marshall makes the following remarks on this case:—

"1stly. With regard to the stricture itself, it is remarkable (1) that a stricture should have existed in such a spot; (2) that it should have been so exquisitely painful to the touch; (3) that the pain should have given rise to paroxysms of hysterical mania. May not some forms of puerperal mania depend upon a uterine lesion acting on an hysterical system?

"2ndly. That the stricture was the cause of the miscarriage in this and the previous pregnancy I have no doubt. I have never seen this mentioned as a cause of premature labour. The uterus up to the fifth or sixth month of pregnancy grows and expands almost entirely in its upper part. At that time it enlarges downwards from the internal os; but in this case the stricture would not allow it to expand, and by continued irritation induced labour-pains.

"3rdly. If this be true, it throws some light upon 'What is the cause of labour?'—a point, I believe, still undetermined. If you examine the uterus at the eighth month, you find a considerable portion of the neck still unexpanded; if you examine at the end of the ninth month, you will find the neck entirely obliterated. What happens then? Does the uterus stop growing? No: it still continues to enlarge downwards, and it can only do so by dilating the os. Had this stricture been situated at the external os, the uterus would have gone on growing until the end of the ninth month, and then, just as in the miscarriage, by irritation of the stricture, labour-pains would have set in. It is not necessary, however, to invoke the aid of a stricture at the external os to induce labour-pains. The os is the most sensitive part of the whole organ; to dilate or irritate which is to bring on pains. This the natural growth of the uterus does; then those contractions of the uterus, sometimes painful and sometimes painless, which occur every hour or two during the latter months of pregnancy, recur with greater frequency; the membranes and the head of the child are pushed down upon the os, exciting it more and more to induce pains by reflex action, until finally the labour is accomplished. This I have long regarded as the explanation of the cause of labour: the natural expansion of the uterus, acting on the sensitive os, begins to dilate it, and through it reflexly the necessary pains are called forth."

## Art. 258.—*Extra-uterine Fœtation.*

By Evory Kennedy, M.D., of Dublin.

(*British Medical Journal*, January 23.)

Dr. Kennedy records three highly interesting and instructive cases of extra-uterine fœtation. In the first case the patient died from hæmorrhage caused by rupture of the right Fallopian tube.

In the second case there was also internal hæmorrhage which completely prostrated the patient, but under careful treatment she recovered. Dr. Kennedy lost sight of the case afterwards, so that the history of it was not complete.

The third case Dr. K. saw with Dr. Dwyer. Dr. K. gives the first part in the words of Dr. Dwyer, and the latter in the words of Dr. Churchill:—

"Mrs. —— has had one child, at this date (October, 1844) ten years old. About two years since, she fancied herself pregnant; her menstruation having become scant and painful, accompanied with profuse leucorrhœa, occasionally tinged red. I treated her for these symptoms; and on her recovery, did not again see her until Sept. 4th, 1846, when she was suffering from symptoms of early pregnancy. Her last period had been on 16th July, 1846; it was natural, and she expected her confinement at the end of April, 1847. She now commenced suffering from *malaise*, with uneasy sensations in the uterine region; and on Oct. 20th, these became so acute that Dr. Kennedy was called in to see her with me. Fomentations and sedatives were directed, and with relief, for some days; when suddenly there set in agonizing pain in the right uterine and iliac regions, attended with vomiting and great prostration, with extremely small pulse, indicating apparently some peritoneal injury. Dr. Kennedy was at this time out of town; and Sir Henry Marsh saw the case with me. Opium was now administered freely, one grain of solid opium being given every second hour for some hours; and fomentations were repeated, followed by a blister and brandy. She gradually obtained relief, improved in health, but always experienced more or less sense of uneasiness and weight in the right iliac region. I discontinued my attendance on Nov. 7th; but was subsequently informed that she had quickened I was called to see her on Nov. 26th; and on examination with the stethoscope, detected in the right iliac region, which felt full, a distinct placental *souffle*. I did not visit her for nearly four months from that time, and was again called to see her in March, 1847, when she suffered great distress from pressure, and, as she termed it, a bursting feeling at intervals. I now sought for the sounds of the fœtal heart, but always in vain. A bandage and mild aperients afforded relief; and on April 25, 1847, I was summoned by the nurse-tender then in attendance upon her, who supposed her in labour. She stated that she had been all night complaining; and added that, as the pains continued, she thought it well I should know. The pains subsided, and the threatening went off for ten days, when, in consequence of the pain returning, with uterine discharge, I was suddenly summoned, and immediately asked for a consultation with Dr. Kennedy."

"Here Dr. Dwyer's report terminates; and I shall now state the rest of her case in its early stage, with which I am myself familiar.

"On a close investigation of her case, we satisfied ourselves that the os uteri was patulous. The neck was not obliterated. A resisting fulness was felt at the upper part of the vagina, pressing on its upper floor, and more perceptible at the right side of the uterus, the neck of which was traceable and but little enlarged beyond what would be the case if unimpregnated. It was pushed over to the left side. A steel sound was introduced by me into the os uteri, and passed up for upwards of three inches; and Dr. Dwyer could distinctly feel the point of the sound pressing up the fundus of the uterus against his fingers placed above the pubes. We now arrived at the conclusion that the case was one of extra-uterine pregnancy, most likely of that form in which the ovum had rested low in the Fallopian tube, close to the wall of the uterus; and further, as the pains had yielded under treatment, principally sedatives, and as there was no indication of internal hæmorrhage, at least to any serious extent, from the rupture of the cyst (if this had taken place), we determined that no more decided interference was then called for. We informed the patient's friends of our opinion, and endeavoured to reconcile them to the idea that at some future time nature would assist in accomplishing the throwing off the fœtus, by abscess pointing in the vagina, or elsewhere, when assistance could be rendered more safely than by attempting any operation at the moment. This opinion was very unpalatable to the friends, and so ungraciously received, that we were relieved from further attendance upon the case, and the lady placed herself under the care of an eminent physician, since dead, who arrived at conclusions different from what Dr. Dwyer and I had done as to the nature of the case. What these were we never could exactly ascertain, further than that, in his opinion (an opinion I feel bound to say, with justice, highly thought of in the profession), the lady 'was not—nor had she been—pregnant, and consequently did not carry about a dead fœtus.'

"Eighteen years passed over. The lady, I have been informed, continued in a complaining state, but was able to go about, and did not evince much appearance of delicacy. She was said to have suffered from general debility, and for several years from a profuse menstrual discharge, as well as from rather constant sanious—purulent or leucorrhœal—discharges. These symptoms, and her general delicacy, ascribed in a great measure to the mistake which her physicians had made in pronouncing her pregnant when not so, and treating her accordingly, caused much interest to be taken in her, both within and without the profession, especially when this lady's case came upon the *tapis* between mutual friends. It should operate as a warning to the younger members of the profession, who pride themselves upon an astute diagnosis. For eighteen long years we reaped the full benefit of ours before the mystery was elucidated; and the only answer the two doctors could give to the repeated attacks and insinuations about the error they had committed, was '*wait!*' But, happily for the sake of science and truth, the mystery was eventually cleared up, and happily for the doctors they survived its elucidation. Some months since Dr. Churchill and Dr. Butcher

were called to see this lady; and I shall best conclude the case by giving Dr. Churchill's account of the result in his own words.

"I was called to see Mrs. ——, in a state of debility, worn out with discharges from the vagina of long standing; and on examining *per vaginam*, I found behind the cervix uteri, and a little to the right of the mesian line, a small opening as large as a goose-quill, into which the finger-nail entered, and grated against a hard substance, which was concluded to be bone. Higher up, a small tumour could be felt in the posterior wall of the uterus. On consultation with Dr. Butcher, this opening was enlarged by me; and Dr. Butcher removed the bones of a fœtus in detached portions denuded of soft parts, and much discoloured, indicating development to about the third month. Some bones were subsequently expelled with the discharges; and the cavity, on being examined by me, seemed to be large enough to contain a good sized walnut. Her health improved immediately after the healing of the abscess, which was speedily accomplished, and her periodic health became regular and moderate, with total subsidence of sanious and leucorrhœal discharges, to which she had been for eighteen years more or less liable."

The question that remains an open one in this case is, Whether any rupture of the cyst occurred; and if it did, at what period of the pregnancy? If rupture occurred, it must have been almost the 25th of October, when the acute abdominal suffering occurred, for which Sir Henry Marsh and Dr. Dwyer treated her; but she evinced no symptoms of internal hæmorrhage; therefore, if the rupture occurred, no serious amount of blood could have made its way into the abdomen. The absence of any increased size or tumour in the abdomen further confirms there having been no hæmorrhage in this, as was the case in the two preceding cases. Another feature of interest, that creates a doubt as to the exact period at which the development of the germ ceased, is the fact of Dr. Dwyer having detected the placental murmur exactly a month after the occasion of the violent pains on the 25th of October. It will no doubt be in the recollection of the profession, that, in the year 1833, Dr. Kennedy put forward some cases of murmur existing after the death of the fœtus, but altered and more abrupt in its character; and this may probably have been the case here.

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## Art. 259.—*Treatment of Placenta Prævia.*

### By Dr. Fluck.

(*The Practitioner*, January.)

Dr. Fluck of Niederselters, speaking of the various methods of dealing with the hæmorrhage of placenta prævia (*Der Praktische Arzt*, October), contrasts the merits of the plan of plugging the vagina with those of injecting dilute perchloride of iron, much to the advantage of the latter. The latter method, he says, has the advantage of checking the bleeding promptly, without interposing any obstacle to the frequent examination of the os uteri and of the placenta, which is of the greatest importance. Fluck uses cold water for the injection, and adds the chloride of iron in

such proportion as to make a mixture of a greenish yellow-brown colour; the operation is performed gently and with pains, so as to avoid penetration into the cavity of the uterus. It is used just sufficiently long to arrest distinct hæmorrhage, and is repeated before each operative interference; ergot is also given internally; and the uterus, when emptied, is steadily compressed with the hand from without. His plan is to rupture the membranes as soon as may be after arresting the hæmorrhage. He relates five cases thus treated, all the women being multiparæ. In four of these the mother was saved; in one the mother died from intra-uterine hæmorrhage, with great distension of the womb, after the delivery of the child and the placenta (the fœtus had been long dead, and was decomposed). In one other case the fœtus was also putrid; in a third it was born alive, though extremely *anæmic*. In the other two the child was born dead, and apparently had died from anæmia at some stage of the labour. On the whole, these results do not appear very encouraging as regards the life of the child, judging from the three cases in which the child had apparently not died before labour commenced; and one wonders if the author has tried Dr. Barnes' plan of partial separation of the placenta from the uterus. Another thing in Dr. Fluck's narration which is calculated to surprise an English physician is the sparing use, or almost non-use, of alcoholic stimulation under the circumstances of exhaustion, in which more than one of his patients obviously was. More particularly in the case which terminated fatally, one is amazed that Dr. Fluck should have trusted to "strong coffee and ether," when the most strenuous manipulation had been found necessary, in order to effect the delivery of the dead and putrid child, and the woman was exhausted in the extreme. One would think this was just one of the cases in which the prompt administration of unlimited raw brandy would have been likely to save life.

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ART. 260.—*On the Operations for the Relief of Chronic Inversion of the Uterus, with the Account of a Case Successfully Treated by a New Method.*

By ROBERT BARNES, M.D., Obstetric Physician to St. Thomas's Hospital.

(*The Lancet*, April 24.)

The author discusses the merits of the various operations hitherto employed for the relief of chronic inversion of the uterus, tabulates the cases in which operations have been resorted to and which are not recorded in Mr. Gregory Forbes's memoir in the *Medico-Chirurgical Transactions*, adds these cases to Mr. Forbes's tables, and compares the results of the different methods. Of cases treated by ligature only, twenty-six were successful, ten unsuccessful, and of the latter eight died; of cases treated by ligature and excision, nine were successful, and three ended fatally; of cases treated by excision only, three were successful, and two died; of cases treated on Tyler Smith's plan, by sustained elastic pressure, six successful cases had been published; and of cases treated by forcible taxis, some had proved successful, but three

had died. The ligature and excision were open to the double objection that, besides being very hazardous to life, success was only achieved at the expense of mutilating the patient. Forcible taxis was a violent and often fatal proceeding. Sustained elastic pressure had given remarkable results, but cases would occur where the constricted cervix uteri would resist simple pressure. The author related a case of inversion of six months' standing which resisted elastic pressure kept up during five days; and in which he resorted to a plan, thus practised he believed for the first time, of making three longitudinal incisions into the os uteri, so as to relax the circular fibres; taxis then applied quickly succeeded. The woman made an excellent recovery. The author proposes, as the best proceeding where simple sustained elastic pressure fails, to make an incision on either side of the os uteri, and then to reapply the elastic pressure, as being safer from the risk of laceration than the taxis.

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## Art. 261.—*A Case of Chronic Inversion of the Uterus.*

By Dr. v. Scanzoni.

(*Scanzoni's Beiträge*, 1868; and *British and Foreign Medico-Chir. Review*, January.)

Professor Scanzoni relates with great minuteness an interesting case of chronic inversion of the uterus. The subject had borne three children normally, the placenta being always cast without assistance. Several years after the last labour she began to suffer from metrorrhagia, and mucous discharges, often offensive. A fleshy body came through the vulva. This was replaced. The discharges increased so as to render the patient's position critical, and she was admitted into the Wurzburg hospital. The tumour in the vagina had been twice mistaken for a polypus. Scanzoni insists upon the following points in reference to the diagnosis:—1. The impossibility of passing sounds variously curved so high above the tumour as to pass into the uterine cavity. 2. The evidence of a soft pouch surrounding the stalk of the tumour. 3. The possibility of feeling by means of a finger in the rectum the point of a catheter passed into the bladder, and thus proving the absence of the uterus from its proper place. 4. The circumstance that, either with or without the above-named manœuvre, a fan-like body, small below, spreading out above, is felt above the vaginal roof, and which may on careful examination be recognised as the packet of Fallopian tubes, ligaments, and vessels proceeding to the sides of the pelvis; and lastly, the possibility by dragging down the tumour, of unfolding the folds surrounding the stem, so as to be convinced that the upper part of the stem is directly continuous with the roof of the vagina.

Scanzoni determined to remove the uterus. He applied Maisonneuve's écraseur; and having tightened this round the stalk, he cut off the uterus with a bistoury below the constriction. The chain was left on, perchloride of iron was applied to the stump. The chain fell off on the fourth day. Symptoms of peritonitis set in, and the patient died on the seventh day.

On section, pelvic peritonitis was found. Douglas's pouch was filled

with purulent fluid; the os uteri was gaping, opening directly into the peritoneum. The amputated uterus enclosed a cavity, out of which the stumps of the broad ligaments, Fallopian tubes, and several vessels projected. In the anterior wall of the uterus was a hard fibroid tumour the size of a pigeon's egg. Attempt to reinvert the uterus with the fingers failed.

Scanzoni tabulates 58 cases under heads. The first includes 16 cases of removal of the uterus by ligature, ending successfully. The second includes 7 cases of removal by ligature, ending fatally. The third includes 2 cases of excision ending successfully. The fourth 6 cases of excision ending fatally. The fifth includes 22 cases of removal by ligature and excision ending successfully; and lastly, 5 cases of removal by ligature and excision ending fatally. He rejected the idea of trying to reduce the uterus, successfully practised by Tyler Smith, on the grounds that the attempt must cause great irritation of the vagina, and that hitherto its reduction had never succeeded when the inversion was caused by a tumour in the uterine wall.

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## Art. 262.—*On Retroflexion of the Uterus.*

By Lombe Atthill, M.D., Fellow and Censor King and Queen's College of Physicians; Ex-Assistant Physician Rotundo Lying-In Hospital, Dublin.

(*Dublin Quarterly Journal*, February.)

In this paper Dr. Atthill draws the following inferences:—

1st. That retroflexion of the uterus is a common affection, and that it is met with both in married and unmarried females.

2nd. That it is a secondary, not a primary, affection.

3rd. That when it is due to chronic inflammation or congestion of the uterus, terminating in hypertrophy, the catamenia are diminished in quantity, and frequently painful.

4th. But that when retroflexion is the result of subinvolution of the uterus, following labour or abortion, the catamenial discharge is increased in quantity, sometimes even to an alarming degree.

5th. That in addition to the symptoms common to all forms of uterine disease—namely, pain in the back, sense of weight, &c.—we have not unfrequently, where the uterus is retroflected, reflex irritation of the bladder, stomach, and breasts, occurring as to frequency in the order given, and also constipation of the bowels.

With regard to treatment the author says, medicines are of but little value, save so far as the general condition of the patient may call for the exhibition of tonics. The displaced organ must be restored to its proper position, and retained in it. This should always be the first step, unless, as occurs in a comparatively small number of cases, there be so much local inflammation present as to render the application of leeches or other antiphlogistic treatment necessary. The raising the fundus to its normal position is generally effected without difficulty, unless, as occasionally occurs, it has become fixed in consequence of repeated attacks of pelvic inflammation. Under such circumstances treatment is of little use, and unfortunately these are the cases in which the sufferings are

greatest. To retain the uterus in its proper position the patient must wear a pessary, and, in Dr. Atthill's opinion, none is equal for that purpose to Hodge's ring pessary. Care must of course be taken to use one of proper size, and adapted to the calibre of the vagina. Too large a one will give pain, too small a one will be useless. Sometimes it is, however, necessary to allow the patient to wear a small one for a few days till the vagina becomes accustomed to its presence, when it should be replaced by a larger one. The pessary once introduced should be worn for a considerable time. Its presence seldom interferes with the use of a speculum, should it be found necessary to have recourse to local treatment. Maintenance of the recumbent, where it can be carried out the prone, posture by some considered alone sufficient for the cure, is in all cases an accessory measure of much importance.

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## Art. 263.—*Results of Transfusion.*

By Professor Landois.

(*Medical Times and Gazette.*)

Professor Landois, of the University of Greifswald, who has interested himself much in the subject of transfusion, after giving a critical account of the most recent publications on the subject, thus sums up, in a recent number of the *Wien. Med. Woch.*, the results that have hitherto been obtained:—

1. Transfusion has been performed ninety-nine times in cases of hæmorrhage, in eleven of which cases no successful result was even possible. Of the remaining eighty-eight cases, sixty-five were attended with success, twenty were unsuccessful, and in three the result was doubtful.

2. It has been performed twelve times in cases of acute poisoning, one of these being hopeless. In three the results were favourable, and in eight unfavourable.

3. For various forms of disease attended with exhaustion, it has been resorted to forty-three times, the most unfavourable prognosis having been frequently delivered. In these the results were favourable in twelve, unfavourable in twenty-one, and doubtful in nine, while in one case it was a mere desperate experiment.

Professor Landois observes that these statistics speak very satisfactorily for transfusion, and that the results would be far more favourable if this almost harmless operation were not usually driven off to the last minute.

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## Art. 264.—*Diagnosis of Partial Rupture of the Uterus.*

By C. Hecker, M.D.

(*American Journal of the Medical Sciences*, January.)

Dr. Hecker, in the *Monatsschr. f. Geburtskunde*, remarks that the partial rupture of the substance of the womb without implicating the peritoneal coat, is an accident scarcely less serious than when the rupture

is complete, but unattended by the alarming symptoms which mark the occurrence of the latter. In general an unexpected fall in the size, with increase in frequency of the pulse, is perhaps the most decisive indication of the occurrence of partial rupture of the uterine walls. Among the local symptoms Dr. Hecker enumerates one nevertheless as of a very negative character, the sudden occurrence of an hæmatocele situated between the walls of the uterus and peritoneum. Dr. Hecker met with this in two cases. In the first the partial rupture was caused by the presence of a hydrocephalic fœtus; in the second it was the result of medullary carcinoma of the posterior lip of the os uteri. In both cases during labour, the upper wall of the vagina was found to be pressed downwards by a soft elastic tumour. In the first of these cases no examination of the body after death was permitted; but in the second the swelling in the vagina was found to result from an effusion of blood beneath the peritoneum.

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## Art. 265.—*On the Relation of Albuminuria to Puerperal Convulsions.*

By P. M. Hastings, M.D., Hartford.

(*American Journal of the Medical Sciences*, January.)

The most important portion of this paper is that devoted to a consideration of the treatment of puerperal eclampsia. According to the author, the arrest of the disease will depend largely upon the prompt administration of active purgatives. Purgation, he remarks, is generally well borne, and marked relief from the form of toxæmia present is pretty sure to follow its operation. The compound powder of jalap and croton oil, assisted by stimulating enemata, he considers as among the best purgatives we can employ. Removal of the child, when it can be done readily, and without much violence, is our first duty. If the patient is plethoric, bleeding may prove of great service. In a large proportion of the cases that fell under Dr. Hastings's observation, he would consider general bloodletting to be injurious, tending to prolong convalescence. By the free use of chloroform we are enabled, excepting perhaps in cases of serous effusion or of true apoplexy, to control effectually the convulsive paroxysms, and thus gain an opportunity for the use of the remedies designed to remove their cause. After purgation, the free use of opium, combined in some cases with colchicum, will prove of great value. Bromide of potassium has recently been recommended as a valuable remedy. Dr. Hastings has no doubt that it will prove of great benefit in cases where opiates are not well borne.

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## Art. 266.—*Ovarian Cystic Tumour Cured by Bromide of Potassium.*

By John Millar, M.D., F.R.C.S. Edin.

(*Edinburgh Medical Journal*, November, 1868.)

Dr. Millar relates a case of this which is interesting, as it serves to

show that bromide of potassium exercises an influence by its deobstruent powers in absorbing and removing the fluid contents of an ovarian cyst.

The subject of the case was a widow, aged 48, mother of six children, who came under Dr. Millar's care in August, 1866. She had enjoyed good health up to that time, but then complained of weight in pelvic region, with loss of flesh and strength. Tonics were given without much benefit; the pelvic symptoms increased and there was difficulty in making water. On examination then per vaginam and rectum, a small defined tuberose tumour was felt in the left ovary. This enlarged, the patient's health suffered, and February 1st, 1867, Dr. Millar tapped her and drew off 80 oz. of a dark-coloured serous fluid. This afforded considerable relief at the time; but two days afterwards the patient complained of very acute pain in the region of the tumour, preventing sleep; nausea supervened with vomiting, and Sir James Simpson was called in consultation on the 6th of February, 1867. After a careful examination of the abdomen and the state of the patient, Sir James Simpson recommended the trial of the bromide of potassium in small doses, 5 grs. three times a day, with ice for the severe sickness and vomiting. Hot poultices, sprinkled with turpentine, were constantly applied to the left side, which was the seat of pain. Under the use of the bromide of potassium, the pain gradually diminished, but with the absence of pain there seemed to be a tendency to a return in size of the tumour, as some fulness was evident on examination in the left side.

Anticipating a return of the serous fluid, Sir James Simpson, the next time he saw the patient, on the 20th of February, recommended the dose of the bromide of potassium to be doubled, which it accordingly was to 10 grs. three times a day, with very beneficial results, as the tumour within a few weeks became palpably diminished in bulk. During this period the patient perspired very copiously, and passed a large quantity of very dark-coloured urine. This improvement gradually went on during February and March, until the beginning of April, when she was prostrated by an acute attack of gastritis, brought on by indulging in a glass of porter—a beverage so long forbidden that she could not resist the temptation with her returning strength to partake of it. Under the use of appropriate remedies the attack subsided, but became prolonged into a chronic condition, due to her constitutional weakness, during which time she had to be supported principally by nourishing enemata. As the use of the bromide of potassium was during this attack of gastritis suspended, the tumour, which had been reduced to a very small compass, gradually resumed its former size and bulk, so that in the latter end of May she presented very similar symptoms to those she experienced in January—so much so, that Dr. Millar was under the impression that it would be again necessary to tap her. However, he again consulted Sir James Simpson, who recommended the renewal of the bromide of potassium in larger doses than before, so that she now received 15 grs. three times a day with marked benefit; and not only so, she had less repugnance to the medicine than formerly, as she insisted that the nausea, of which she had reason to complain so much, was due to this medicine, and was therefore unwilling to renew it; but with a larger dose she experienced none of the former

sickening effects. Dr. Millar observes that a similar thing happened in another of his patients, who for nervous debility was ordered the bromide of potassium, and who under small doses took a great repugnance to the medicine; but on its being renewed in larger doses, she experienced none of the sickness and nausea with which she was previously troubled.

Under the continuous use of the bromide of potassium the tumour gradually diminished in size; and wishing to mark the progress of the diminution, the patient was desired to measure the width of the abdomen on a level with the umbilicus, when, within three weeks, from the last week of May to the third week of June, the decrease was from forty-eight inches to thirty-three inches. At the same time her general health greatly improved, the extreme tenderness of the abdomen which followed the acute pain she suffered in the beginning of the year also entirely disappeared; so much so that she was able to sit up in bed, and bear the pressure of her stays. The difficulty in making as well as retaining her water entirely disappeared; and it was only on examination, per rectum, that a small excrescence on the left ovary could be felt—the shrivelled remains of the ovarian cysts. In the beginning of July the patient was able to leave her couch, and by the end of that month she was sufficiently strong to go out and undergo without fatigue a moderate amount of exercise. Within a short time afterwards she returned to her usual occupation and domestic duties, and since then has, with the exception of one or two attacks of bronchitis, enjoyed pretty good health. At present her health is not very robust, yet she is able to go about her usual avocations; and with the exception of now and then feeling a sense of weakness in the left side, no traces remain of her former complaint.

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### (C) CONCERNING THE DISEASES OF CHILDREN.

## ART. 267.—*On the Ophthalmia of New-born Children.**

### By Dr. DESORMEAUX.

(*Gazette Hebdomadaire*, No. 4, 1869.)

The following conclusions are given at the end of M. Desormeaux's paper:—

1st. Under the denomination of purulent ophthalmia of infants have been confounded several different affections, as the catarrhal ophthalmia, the blennorrhagic ophthalmia, the diphtheritic ophthalmia, and finally, a special form of ophthalmia, *the malignant ophthalmia of new-born children.*

2nd. This last form of ophthalmia is developed in new-born children under epidemic influences and by contagion; in children of more advanced age and in adults it is always the result of contagion.

3rd. It has for a pathognomic symptom the secretion of a saffron-coloured serosity, the colouration of which is not due to a mixture of blood, and which stains linen deeply.

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* Communicated to the Académie de Médecine.

4th. This symptom exists only at the commencement of the affection.

5th. This affection, the march of which is very rapid, terminates in a few hours in loss of the eye. If it be arrested, but not cured, by an insufficient treatment, it may be prolonged for some time, but never gives place, like blennorrhagic ophthalmia, to conjunctival granulations.

6th. It habitually affects both eyes at the same time.

7th. The only suitable treatment is the eye-douche, frequently repeated, and followed by the instillation of weak collyria.

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## Art. 268.—*Belladonna in Infantile Icterus.*

By J. Waring-Curran, L.K.Q.C.P.I., &c.

(*Medical Press and Circular*, September 9, 1868.)

Dr. Waring-Curran is of opinion that the bile in cases of *infantile icterus* is not *suppressed* in its secretion, but that it is *retained*, that the liver and gall bladder become surcharged and distended, that little if any bile passes through the *ductus communis choledochus*, and he has reason to think that the mischief lies either in the duodenum or common bile-duct—that a spasmodic condition of these parts, from the irritation or passage of the bile through the delicate structures, is the cause of the mischief. The duct becomes spasmodically closed, the bile, instead of being eliminated as it is secreted, is blocked up in the liver, and we have re-absorption of it taking place into the blood.

A few months ago Dr. Waring-Curran had the opportunity of making a post-mortem examination of a child aged seven days, who died from an injury to the head produced by falling from the nurse's arms. It had been previously out of health, and from the generally tinged condition of the skin, Dr. Curran was induced to examine the liver. He found it preternaturally large, distended with bile, and in carefully examining the duodenum and common bile-duct, he found the duct narrowed, and the characteristic tinge made by fresh bile entirely absent. He came then and there to the conclusion that the duct had been spasmodically closed during life, and thus the egress of the bile prevented.

That Dr. Waring-Curran has been correct in his opinion is best exemplified, he says, by the immediate relief afforded in the treatment of similar cases by tincture of belladonna in two-drop doses. After its administration there is an end to the incessant crying, the child falls asleep, passes bile freely by the bowels, and rapidly recovers its natural state and condition. The administration of calomel he considers unnecessary and cruel. The act of secretion has gone on naturally enough. The elimination of the bile is what is required, and for this purpose tincture of belladonna will be found expeditious and curative, by overcoming the spasmodic condition of that portion of biliary apparatus so frequently affected in children a few days after birth.

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## Art. 269.—*On Convulsions in Children.*

By Samuel Gee, M.D.

(*St. Bartholomew's Hospital Reports*, vol. iii. ; and *British and Foreign Med.-Chir. Review*, October.)

In this paper, Dr. Gee gives a summary account of 102 cases of epileptiform convulsions in children, and he divides them into three classes, according as their causes are local, general, or uncertain. In 24 cases the convulsions were apparently sympathetic of local disease in or near the cerebrum, such as tumours, abscesses, disease of the vertebræ, &c. In 73 cases, 1 was caused by anæmia, 1 by uræmia, 12 by acute specific diseases, as scarlet fever, measles, &c. ; 1 by syphilis, 1 by exhaustion from a large ulcer, and 1 from chronic Bright's disease, but 56 were unaccounted for, and they are classed under the head of convulsions depending upon the general condition of the child. Dr. Gee considers that many cases of essential convulsions (eclampsia) are associated with a constitution tending to rickets. After giving a brief abstract of the 56 cases, Dr. Gee remarks that hypertrophy of the brain sometimes co-exists with rickets ; that sometimes enlargement of the cranial cavity occurs in rickets, without the brain being enlarged at the same time ; that in reference to dentition, the backwardness of the teeth and the tendency to convulsions are sometimes concomitants of the rickety diathesis, and that in several cases the occurrence of measles did not produce fits, although the children had been subject to them previously. The cases of convulsions of uncertain origin were only five in number. The treatment adopted in most of the cases consisted in the administration of the bromide of potassium or ammonium (for a child, for instance, of a year old), in doses of four grains three or four times a day, and when the fits had ceased, of cod-liver oil and vinum ferri.

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## Art. 270.—*On Tracheotomy in Children ; its Method, its Dangers, and its Difficulties.*

By F. Howard Marsh.

(*St. Bartholomew's Hospital Reports*, vol. iii. ; and *British and Foreign Med.-Chir. Review*, October.)

In this paper Mr. Marsh records the conclusions at which he has arrived chiefly from his experience as House Surgeon at the Hospital for Sick Children. In the first place, he combats the objections which have sometimes been made against the operation, and he concludes that it can be as deliberately performed as any other surgical proceeding, that the struggles of the patient may be obviated by chloroform, and that the apprehension of dangerous hæmorrhage has been exaggerated. After a brief but careful description of the structures concerned in the operations for opening the windpipe, he draws a comparison between laryngotomy and tracheotomy, declaring his opinion to be in favour of the latter as being on the whole more efficacious, although laryngotomy is

most easily performed. But laryngotomy affords but little space for the introduction of the tube, it injures the integrity of the larynx and the vocal apparatus, and the tube causes great irritation and distress. In tracheotomy, few structures of any very great importance are involved, the tube is easily introduced, and the risk of hæmorrhage is but slight. Mr. Marsh then points out the spot most suitable for the operation, which should not be too low down on the one hand, where the trachea is very deep seated, nor too high, where the thyroid gland is placed, and which it is expedient not to wound. The tube to be employed is then described, and the different steps of the operation are minutely related, together with the after-treatment, so far as surgical ministrations are concerned. Some cases are then recorded in which the operation was performed, and in some the proceeding was successful; in others, where the result was less fortunate, the causes of the failure are pointed out. The patient may die from the constitutional disease for the relief of which the operation was performed, or from the local effects of the operation itself, and sometimes in cases which promise well, some accidental circumstance produces a fatal result, as where a portion of false membrane becomes entangled in the canula. Ulceration about the wound, or of the trachea around the canula, is also a more common result and a more frequent source of danger than is generally supposed, and Mr. Marsh has notes of nine cases where this complication occurred.

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## Art. 271.—*A Case of Hæmaturia in a New-born Infant.*

By J. D. Smith, M.D.

(*Nashville Journal of Medicine and Surgery*, June, 1868; and *New York Medical Journal*, October.)

This case, from its rarity, is deserving notice. A male infant, large, well developed, and apparently healthy, forty-five hours after birth, while suffering much as does a child with colic, passed about half an ounce of blood from the urethra. The hæmorrhage recurred five times within twelve hours. At the end of this time Dr. Smith saw the case, and gave one drop of tinct. ferri muriatis every hour, and continued the use of an infusion of water-melon seeds, which had been adopted as a domestic remedy. The hæmorrhage recurred again twice within the next twenty-four hours, when there was a copious flow of urine, the first since the hæmorrhage commenced.

The discharge of blood now gradually checked up, passing only in sufficient quantity to colour the urine, which in two days more was entirely clear. The whole quantity of blood lost, Dr. Smith thought, could not have been less than four or five ounces, the father thinks much more. The child took the breast freely during the entire attack, except when in pain just before the passage of blood from urethra. The pulse remained very weak, and the child anæmic during the attack, and for some days afterwards, but there were no other abnormal signs to be discovered.

Now, whence the source and what was the cause of the hæmorrhage? It might be said that if it had been from the kidneys it would have been

mixed with urine. But little or no urine passed during the time, and when the kidneys acted freely the hæmorrhage measurably ceased, which arrest of function is an indication that the kidneys were in a state of congestion. Could it have been the result of urinary calculus formed in the kidney during intra-uterine existence? If so, why has there not been further evidence of such a formation? Could it have been the result of the hæmorrhagic diathesis? If so, would the blood have coagulated so rapidly? The mother, and the midwife who attended the case, both stated that it could not have been from mechanical injury, for the child had received no shock or concussion whatever.

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## Art. 272.—*A Case of Diabetes in an Infant.*

By James L. Brown, M.D.

(*The American Journal of Obstetrics*, May, 1868.)

The subject of the disease was a little girl, under two years of age, who was born of healthy parents, and was herself remarkably healthy until about the twentieth month of her age, when her mother first noticed that she appeared to pass more water than usual, especially at night, and that she drank a great deal; but as her health seemed to be perfect in every other respect, this did not attract any particular attention.

It was not until five or six weeks after this time that her health seemed to be perceptibly deteriorating, and that Dr. Brown's attention was first called to her.

On examination the urine was found to be of high specific gravity and very saccharine.

The appetite continued to be good, but there was a perceptible loss of flesh, and an obvious diminution in strength. The temper too began to be fretful and peevish, and the child was evidently out of health, though not appearing to be *sick*. About a week or ten days after this an erythematous eruption began to make its appearance on the buttocks and around the vulva, and subsequently became a source of much discomfort. There was also a peculiar fœtor of the breath, not unlike the odour of chloroform, which became stronger as the disease progressed, and was one of the most marked features of the case. The child was still well enough and strong enough, however, to run about and to engage in its usual amusements, but with much less than its usual ardour. Her cheeks were still full of colour, and her figure tolerably plump, and she yet retained the appearance of a healthy child. In three weeks more she was dead. There was a progressive loss of strength, a rapidly increasing emaciation, a gradual failure of the appetite, occasional febrile attacks of a few hours' duration, and death from simple exhaustion. There was no cough, no diarrhœa, no symptom of cerebral disorder, and in fine, no complication whatever. She was confined to her bed only four days, and just a week before her death went out with her mother and walked a couple of blocks. The amount of urine passed during the last three weeks of her life averaged about

five pints per day. Its specific gravity ranged from 1030 to 1036, and it never contained albumen at any time.

A post-mortem examination of the body was made by Dr. Jacobi, who saw the child about two weeks before her death. He found the brain large and well developed, having numerous and deep convolutions. That part of the arachnoid covering the anterior two-thirds of the hemispheres was not perfectly transparent, and there was considerable injection of the dura mater, and in fact of nearly the whole encephalon. There was some thickening of the arachnoid in the fissure of Sylvius, and a few granulations having the appearance of very recent miliary tubercles. The ventricles contained very little fluid, and were entirely normal. The choroid plexus contained hundreds of miliary tubercles. On first inspection the lungs presented nothing abnormal, but a closer examination discovered a number of little dots, just visible, which were evidently newly formed tubercle. The spleen was found studded with miliary tubercles, their number and development being much greater here than in any other part of the body.

Nothing abnormal was found in the liver or kidneys, except that the right kidney was somewhat larger than the left, and that the cortical substance of the left was more congested than that of the right. These were the only lesions found, and being all of recent origin and obviously secondary to the diabetes, the results of the autopsy, so far as the primary disease was concerned, were entirely negative. In a disease of which the pathology is so obscure, any circumstance that bears even remotely upon it may prove of importance. The diet of this child from the time that she was weaned, consisted almost exclusively of food abounding in starch; she appeared to thrive so well upon it, and showed such a marked preference for it, that but little else was given her.

This fact, Dr. Brown says, may have had no influence in producing the disease, but it seems to merit special mention, particularly as diabetes is an affection that seems to be much more prevalent in some countries than in others, the difference being apparently due to a difference in the dietetic habits of the people.

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## Art. 273.—*On Bromide of Potassium for Diseases of Children.**

By M. Moutard-Martin.

(*Gazette Hebdomadaire*, No. 50, 1868.)

The practitioner is repeatedly called to see infants, in other respects healthy, who during the early months of their existence cannot rest, and who wear out, in consequence of loss of sleep, those who are about them: there are other children who sleep during the day but never at night. In these cases, when tepid baths, infusions of poppies, orange-flower water, &c., have failed, bromide of potassium succeeds in a remarkable manner.

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* Communicated to the Académie de Médecine.

M. Moutard-Martin quotes several cases in support of the sedative action of the bromide of potassium in very young subjects, and derives from these facts the following conclusions :—

1. Bromide of potassium, when administered in moderate doses (from 5 to 20 centigrammes), is perfectly tolerated by young children.

2. In consequence of its sedative action it cures the insomnia of young patients.

3. When administered to children who present the occasional affections at the period of dentition, characterized by restlessness, insomnia, and cough, it frequently succeeds in calming the bad symptoms, and may probably, when administered with prudence, prevent sometimes the occurrence of convulsions.

4. Bromide of potassium cannot be administered to children who have diarrhœa.

5. In certain exceptional cases where nervous erethism is predominant, the bromide may exert a prompt and decisive action.

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## Art. 274.—*Simple Mode of Performing Artificial Respiration in Asphyxiated Children.*

By C. Handfield Jones, M.D., Physician to St. Mary's Hospital.

(*The Practitioner*, March.)

Dr. Jones writes :—"During my presence at a confinement (in my own house) the child was born with several turns of the cord round its neck, and after it was released from these it lay with a swollen, livid face, and no attempt at respiration. As soon as possible I laid it down on its back, and made pressure on its abdomen; then raised it upright on its seat; again laid it down and pressed the abdomen; again raised it upright, and so on. In the recumbent position the diaphragm was of course pushed upwards, and expiration was imitated; in the sitting erect position the weight of the liver and abdominal viscera drew the muscles down, and inspiration was accomplished. The efficacy of the procedure was evinced in a very short time by the young gentleman making such vigorous use of his lungs that his cry was distinctly heard on the second floor below where he was."

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## Art. 275.—*On the Wasting Diseases of Infants and Children.*

By Eustace Smith, M.D. Lond., Physician Extraordinary to the King of the Belgians.

(*Medical Times and Gazette*, November 28.)

In this work Dr. Eustace Smith especially points out that the terms "wasting," "marasmus," &c., are often very improperly used. He observes :—"It is not uncommon to hear that a child has been given

over for this supposed complaint (mesenteric disease) when he is in reality suffering from nothing else than *bad feeding*, with derangements of the bowels as its natural consequence. . . . Setting aside the extreme rarity of mesenteric disease, there remains the fact that the distension of the abdomen is by no means a necessary consequence of this disease. On the contrary, unless the glandular disease be great, the abdominal wall is more often retracted than expanded. . . . If the increase in the size of the glands is sufficiently great to produce a distinct tumour, the swelling is seated about the umbilicus, and does not occupy the whole abdomen." What then gives rise to the emaciation so often met with in infancy? Not one, but various diseases—chronic diarrhœa, rickets, worms, chronic tuberculosis, and congenital syphilis—and these diseases too frequently have their stimulus in a defective nutrition. "Wasting is a sign of defective nutrition," and in every case the cause should be inquired into. It may be unsuitable food; the child may be prevented from assimilating an ordinary digestible diet by some unhealthy condition of the alimentary canal, or some constitutional defect, as the existence of tuberculosis or congenital syphilis, may interfere with the proper nutrition of the tissues. It is very essential therefore to detect the earliest symptoms of wasting, and to search out its cause. In the majority of cases it can be traced to improper feeding, and therefore a strict regulation of the diet is indispensable. "Tonics given to a child whose bowels remain disordered are *perfectly useless*, for, so long as derangement of the alimentary canal continues, nutrition cannot be restored, on account of the impediment thus presented to the digestion and the assimilation of food." The strictest attention should be given to regulate the diet, to arrange the quantity and the times for taking food, of course removing by medicine any improper food which may have been previously taken. In aid of a regulated diet, strict attention to the skin is necessary. For this purpose warm baths, followed by continued friction over the body for some time, will be found of great service, and in cases of chronic disease stimulating liniments and cod-liver oil. By these means the circulation is rendered more vigorous and the healthy action of the skin promoted. But discretion is needful in the use of counter-irritants to young children, for "an irritant which in a healthy child would produce only a moderate degree of redness will often, where the strength is much reduced, set up very great inflammation, or even produce sloughing of the tissues. . . . Blisters are inadmissible for infants."

Having given this general outline, the author proceeds to consider the various results which follow from defective nutrition; and first, "simple atrophy," which he states is "an exceedingly common condition." The supply of food may be actually deficient, as is often the case when the child is nourished entirely by the breast, but the milk of the mother is poor and watery. When she is weak, anæmic, and evidently ill-nourished, the milk must suffer; but there are cases where the health and general appearance present no signs of weakness, and yet the milk is of inferior quality. "From the researches of MM. Vernois and Becquerel, we find that the richest milk is far from being secreted by women of the greatest muscular development. On the contrary, their investigations tend to show that a robust figure is inferior

in milk-producing power to one slighter and apparently less vigorous." Besides those cases where the quantity of food is at fault, there is another class where nutrition is equally unsatisfactory, although the supply of food is liberal enough. For instance, where weaning is premature, or where the child has been brought up by hand and the food improperly selected, "a child is not nourished in proportion to the bulk of food he receives into his stomach." He may take large quantities of food into his stomach, and yet, from weakness of his digestive organs or from the indigestible nature of the food swallowed, may derive no nourishment from it whatever; on the contrary, it may cause great irritation and pain, and reduce the child it was intended to support. The author says: "It is the tendency of mothers to overfeed their children—to mistake every cry for the cry of hunger. Consequently the peevishness and irritability of the child increase in proportion to the pain excited in the bowels; the food is made more and more nourishing, and the louder the cry the thicker 'the sop,' until at last a violent attack of vomiting or diarrhœa takes place, or a convulsive fit warns the parent it is time to desist."

In nutrition it is important that changes be rapid. These are effected by the oxidation of the old material, which is then removed to be replaced by new matter. It is indispensable, therefore, that no needless impediment should exist to the free oxidation of the tissues. "Now, starches and sugars, into which starches are converted by digestion, have a greater affinity for oxygen than albuminates. They therefore tend to appropriate the oxygen which is required for the removal of waste matters, and so prevent the proper change taking place." For this reason alone, besides their indigestible properties, food composed chiefly of starches is very improper diet for a young child.

Under the head "Treatment" the author makes some very valuable remarks on nursing. He then proceeds to the consideration of infantile diseases, many of them the result of improper diet—for instance, chronic diarrhœa and chronic vomiting. Rickets he shows to be also an effect of malnutrition, and worms a consequence. Other constitutional diseases the author classes with these, as tuberculosis, phthisis, congenital syphilis.

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## Art. 276.—*Treatment of Hydrocephalus.*

By Timothy Holmes, F.R.C.S., Surgeon to the Hospital for Sick Children.

(*Surgical Treatment of Diseases of Infancy and Childhood.*)

With regard to the treatment of hydrocephalus, Mr. Holmes gives the following practical directions, which he believes to be the best that can be laid down from present experience:—

"1. As a general rule, nothing ought to be done beyond supporting the tumour and making gentle pressure by means of some bandage or cap, lined with cotton-wool, to prevent ulceration. Perhaps as convenient a form as any other is to apply a gutta-percha cover on the

tumour, and line it with layers of wadding, which can be gradually increased in number as the tumour yields to pressure.

"2. If there are obvious symptoms of general hydrocephalus, no operative measure is admissible.

"3. If there be a watery tumour which is rapidly on the increase, without other symptoms, repeated puncture may be tried; all possible precautions against the entrance of air being taken.

"4. If this method fails, the injection of iodine may be tried. Those cases appear to be best fitted for this method in which the tumour, as far as can be judged, is free from the presence of cerebral matter, and has a stalk or pedicle.

"5. All irritating applications to the skin are worse than useless. They cannot cure the disease, and may easily produce sloughing of the skin, and so burst the tumour and cause death.

"6. Finally, there may be cases, however rare, in which the entire removal of the tumour might be contemplated. If the communication with the interior of the skull has become obliterated, the case is converted into one of ordinary cyst, with no more danger, and at the same time no more urgency, about the operation than in common tumours. . . . . In other cases, if it be determined to remove a tumour the pedicle of which is believed to have a communication with the cerebral cavity, the best method of operating would perhaps be to provide a clamp with narrow flat blades, something like that which is used by some surgeons in operating for piles. This clamp should be placed on the stalk of the tumour. The cyst could then be tapped, and as the fluid escaped, the blades of the clamp might be tightened, in order, if possible, to bring all parts of the inner surface of the pedicle into contact with each other. This being done, the tumour should be removed, two small flaps of skin being preserved to cover the opening. These flaps being united carefully (by the continuous suture), the operation would be terminated. The clamp could be removed after a certain time, say twenty-four hours. Its application would be intended to produce such an amount of inflammation and extravasation of lymph as may procure the obliteration of the pedicle, without so much or such long-continued pressure as would cause ulceration of the skin."

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## Art. 277.—*Treatment of Rickets.*

By Bernard E. Brodhurst, F.R.C.S., Lecturer on Orthopædic Surgery at St. George's Hospital.

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The *treatment* of rickets, Mr. Brodhurst says, consists in the employment of all such measures as conduce to the restoration of health—namely, warm clothing, such as flannel next to the skin and enveloping the trunk and extremities; a diet composed mainly of animal substances, and a dry and pure air. To these may be added tepid bathing, as well as cod-liver oil and one or other of the various preparations of iron. Constipation and diarrhœa, which are so frequently present in this

affection, are to be met, not by the exhibition of drugs, but by a careful regimen. It is rare, indeed, that strict attention to diet will not, at least in the commencement of rickets, be sufficient in itself to regulate the secretions, and restore a state of healthy nutrition; but should it not be sufficient to effect this purpose, then recourse may be had to the nitro-muriatic acid bath, which, when used occasionally, and as it may seem to be required, is of great value in these affections.

The *surgical treatment* of curvatures of the tibia and femur, and knock-knee may be explained in very few words. It consists of the application of splints or supports to the bent limbs. These are placed on the inner side of the curve, and pressure, by means of webbing bands, is thus readily applied to the outer side of the curve. In genu extrorsum, or outward inclination of the knee, the femur is curved outwardly as well as the tibia. In this deformity, therefore, the support should reach on the inner side of the curve to within two inches of the pubic bone. It should be made of metal, and as light as is compatible with the requisite strength, with a joint to correspond to the knee-joint, and its lower end should be inserted into a socket, which is let into the sole of the boot. Where the bones of the leg alone are curved the support should reach from the inner condyle of the femur to be let into the sole of the boot, as in the case before-mentioned. In both cases a pad should be so placed as to correspond to the internal malleolus, so that pressure may not cause injury to the integument. It is easy in this manner to remove this outward curve of the leg-bones. But together with an outward curve there is not unfrequently found a forward curve also, and it is much more difficult to remove this anterior curve than it was to act on the outward curve. This anterior curve should be treated by means of a well-padded splint, and pressure should be made gradually, and increased very slowly; for in this position, the bone being sharp, and lying immediately beneath the skin, pressure would readily cause a slough. To act on such a curve efficiently, pressure should be exerted only in the horizontal position, and the child should not be allowed to stand until the curve be removed. The same system is to be adopted in the application of splints to the humerus and the radius and ulna. In all these cases the apparatus should be provided with joints which correspond to the articulation of the limb, and which allow, consequently, of motion at the same time that such pressure as is necessary is applied to the curved bone. It is, of course, to be understood that this treatment, when applied to ricketty bones, is to be used before Nature's cure is effected; for as diarrhœa ceases together with night-sweats, and the functions of digestion are performed in a more healthy manner than heretofore, the epiphyses begin to diminish in size, and the salts of lime then are again deposited in the bones, so that they not only acquire their normal strength, but become endowed with much greater solidity and consistence than in their normal condition. The phosphate of lime then is deposited in abundance, especially on the inner side of the curve, and this deposition greatly increases the weight and strength of the bone. This is the cure which Nature performs. When this has been effected, the curves which existed remain unalterable. These observations apply, however, alone to ricketty bones, and not to those curves which are induced in the long bones as a result of debility.

Genu valgum, or knock-knee, requires support on the outer side of the limb. This support is, perhaps, best given by means of a metal stem, which is fitted above into a band which encircles the pelvis, and below into the sole of the boot; joints correspond to the articulations of the limb, and one or more bands support the knee. In severe cases it is advantageous to attach a cogwheel to such an instrument, that the direction of the stem may be altered as the limb yields. In cases where such an apparatus is necessary, the child should be kept in the horizontal posture during almost the whole day. Exercise may be allowed, but it should be used sparingly. In a severe case in the adult, it is necessary to divide the outer hamstring.

The mode of division of the biceps tendon is as follows:—The patient, lying on his face, will endeavour slightly to bend the knee, which will cause the muscle to spring into action, and make the tendon tense. The tenotome will then be introduced beneath the tendon from the centre towards the outer side of the limb, and, being guided close to the tendon, it will pass between it and the peroneal nerve. The edge of the knife will then be directed upwards towards the tendon. So soon as the tendon is divided, the peroneal nerve becomes prominent, and a tyro may even doubt whether the tendon has really been divided. If care has been taken to pass the knife fairly and fully beneath the biceps tendon, on using a cutting motion the tendon will certainly be divided, and the knife may be felt covered only by the integument. The knife should then be withdrawn, and on no account should it be reintroduced. The temptation has sometimes been felt to be so strong that the knife has been reintroduced, and the nerve divided. Paralysis has, of course, followed. The puncture should be carefully closed, and the limb bandaged; and in the course of three or four days, when the wound has healed, extension may commence.

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